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ABSTRACT

The Threshold Project, a 3-year project that followed a 1985 pilot study, examined the nature of the language and learning difficulties that black Standard Three (Std 3, or grade 5) children in South Africa experience when they change from their mother tongue of Sepedi to English as a medium of instruction and learning, a policy known as "delayed immersion." This main report of the Threshold Project summarizes the five final reports of the project and constitutes an integration of the analysis in terms of three parameters: historical-political, socio-cultural, and educational-systemic. Specific educational aspects covered include the following: school-based teaching and learning experiences; English as a subject; the disparity between English as a subject and English as the medium of instruction; learning content subjects; local models of teaching and learning; curriculum development and reducing the disparity between junior and senior primary phases; possible English language policy models; moving from English as a subject towards using it as a medium of instruction; and principles and processes of materials development. Contains a list of 107 references. (LB)

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Crossing the Threshold into Standard Three in Black Education

The Consolidated Main Report of the Threshold Project

C.A. Macdonald

Human Sciences Research Council
P/Bag X41, Pretoria 0001
1990

C.A. Macdonald, Ph.D

Psycholinguistics
Institute for Research into Language and the Arts

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PREFACE

The Threshold Project has its beginnings in a pilot project that was conducted in the Institute for Research into Language and the Arts in 1985. It emerged from this early research that black children were experiencing difficulties with the change of medium of instruction in their fifth year of schooling. At first glance it may have seemed that these difficulties arose purely as a result of ineffective language teaching methods. However, the complex nexus of factors that constitutes black primary education required a closer look at different aspects of the teaching-learning situation.

The Anglo American and De Beer's Chairman's Educational Trust Fund agreed to provide funding to the Institute for the Study of English in Africa to commission a three year project on the problem that had been identified. The research was undertaken under the project leadership of Dr C.A. Macdonald of the Division of Sociolinguistic and Psycholinguistic Research.

In the course of the project, a broad range of tasks was covered, including language testing, cognitive developmental research, materials development, and observation of classroom practices. The results of the research are contained in five final reports and a main report which attempts to contextualise that understanding reached in the larger social situation in which the research was located; there was also a serious endeavour to locate the research in the context of state of the art thinking in specific aspects of education, language teaching and testing theory, and cross-cultural cognitive developmental research. The intention is to open up questions of educational theory and practice for further discussion and research on an academic level, and also to provide a knowledge base for serious thinking on developmental issues in the rapidly changing situation in Southern Africa.

The HSRC expresses its sincere appreciation to the Chairman's Fund for its funding of such an important project, and to the Institute for the Study of English in Africa for the invaluable part which its representatives played on the advisory committee of the project.

A final word of appreciation goes to Dr Carol Macdonald for the important role that she played throughout in the planning, conducting and completion of this groundbreaking project, and also to Dr Rose Morris, under whose aegis the major part of the project was conducted.

K.P. PRINSLOO
EXECUTIVE DIRECTOR: IRLA

February 1990

The children's perspective:

Leaving the old, both worlds at once they view
That stand upon the threshold of the new

Edmund Waller

In memory of my father Norman Ross Macdonald

ACKNOWLEDGEMENTS

Specific acknowledgements are given in each of the final reports to the people who contributed in any way to the research. However, I should like to thank the Bophuthatswana Education Department, in which we conducted the major part of our research, and also the Department of Education and Training, in which a good deal of research was conducted. Corroborative data was also obtained from St Catherine's Convent School, Roodepoort, and St Mary's Diocesan School for Girls, Pretoria.

Thanks are due to the following people who served at some point on the project ad hoc committee:

The Chairman's Fund: Mr M.C. O'Dowd, Mr G. Stubbs, Mr J. Hughes, Mr C. Barlow, and Mr J.C. Meyer.

The Institute for Research in English in Africa: Prof. L.W. Lanham, Prof. P. Walters, Dr M. Connolly, Mr V. Rodseth, and Mr C. Nuttall.

The HSRC: Dr R. Morris, Dr J. Vorster, and Dr K.P. Prinsloo.

Thanks are also due to the various members of the Threshold Project: Elizabeth Burroughs, Pam du Toit, Angela Letsholo-More, Joyce Sikhosana, Helma van Rooyen and Graham Walker.

Last, but not least, sincere thanks to Ed French for reviewing the different drafts of this document. Any lack of clarity of intention which might remain is, of course, my own responsibility.

C.A. MACDONALD

THRESHOLD PROJECT LEADER

ABSTRACT

The superordinate problem that the Threshold Project addressed was the nature of the language and learning difficulties that Standard Three (fifth grade) black children experience when they change from the mother tongue to English as their medium of instruction and learning.

There were four initial aims of the Threshold Project:

* firstly, to describe the nature and extent of the linguistic abilities of the black children in Std 2-3;
* secondly, to describe the nature of children's reasoning skills using a model that would enhance our understanding of their performance on school learning tasks;
* thirdly, to describe the difference between what is expected of children in Std 2 in English as a subject (conventional English second language learning), and what is expected of the same children when they start to use English in the content subject classroom (i.e. EMI);
* fourthly, to describe the nature of children's school-based learning experiences and see how they help or hinder effective learning, and
* finally, as an outcome, to produce principles intended to inform syllabus makers and curriculum developers.

Major areas of possible change that we identified include the following:

* the need to enhance informal and formal transactions between different educational departments with the full certainty that where transaction occurs, adaptation will take place in both white and black systems; there is a need for greater black and English representation within the current Department of Education and Training;

* the opening up of the language policy that currently exists as law, and the consideration either of a "gradual transition" or modified "straight for English" policy in state schools. The development of a gradual transition rather than a "deep end" sudden transition to English would require principled choices in selecting subjects to go into English early, or to remain in the mother tongue until later, and these choices will significantly affect materials development;

* the further use of ethnographic (participant-observer) research in the local situation to inform classroom practices and programme elements; however, the primary focus from a cognitive point of view would be an extended analysis of the learning task of the child, and how to accommodate the learning situation and the teacher to the demands of the task;

* the reduction of the marked disparity between the junior and senior primary phase through vigorous curriculum development, where both themes and (cognitive) process skills are carefully built up; and,

* the adoption of radically new principles and practices of materials development; here we have in mind that the child should be drawn through the transition from basic interpersonal skills (BICS) to cognitive academic language learning (CALLA). It is also suggested that textbooks as they currently exist for Std 3 are wholly inadequate to the needs of the children, and an argument is advanced for the development of hybrid text-workbooks which would develop process skills together with language skills.

The Threshold Project, which was carried out in the Institute for Research into Language and the Arts developed out of a pilot project conducted in 1985 on Std Three (fifth grade) children whose mother tongue is Sepedi and who had started to learn through the medium of English (EMI) from the beginning of Standard Three in the Department of Education and Training (the largest black education department in Southern Africa). The majority of black pupils in the different education departments start to use English as the medium of instruction at this stage: the policy is technically known as "delayed immersion" in the bilingual education literature. The research was significant in that it was the first to address an area that has been politically sensitive for at least a generation.

The pilot research indicated that the standard of English that the children could achieve was poor, and that they were far less capable of handling "content" subjects - for example, general science and geography - through English than through their mother tongue. While the pilot research was being conducted, a request was made to the Chairman's Trust Fund of Anglo-American Corporation in Johannesburg that a three-year project

be undertaken to examine the parameters of the children's difficulties more closely, and make recommendations for constructive change. This grant was received through the Institute for the Study of English in Africa (Rhodes University, Grahamstown), which has been represented on the advisory committee of the project. The project ran from 1986-1988 with senior and junior researchers, and research and administrative assistance, and the team numbered four or five members at any one time.

The project worked within the so-called "new paradigm" research approach, in which qualitative and quantitative research is combined in the first level of description, and inferences made to the second level of explanation, where an attempt is made to identify causal mechanisms underlying the manifest forms that we observe.

Final reports have been produced on all the first four aims. A fifth report documents the Standard Three general science research and development that was undertaken on the project. The main report (the sixth published document) is not simply a resume of the five final reports, but constitutes an integration of the analysis in terms of three parameters, i.e. the historical-political, the socio-cultural and the educational-systemic. These parameters are examined for their contribution to our understanding of the present situation, as well as to help understand the kind of change that might be possible at each level.

There were approximately 50 working papers produced during the course of the research; the following are the official documents of the project:

1. Crossing the threshold into Standard Three in black education: The main report of the Threshold Project. C.A. Macdonald

2. How many years have you got? English language skills evaluation. C.A. Macdonald.

3. Ballpoint pens and braided hair: an analysis of reasoning skills and the curriculum. C.A. Macdonald.

4. Swimming up the waterfall: a study of school-based learning experiences. C.A. Macdonald

5. The Disparity between English as a subject and English as the medium of learning. W. van Rooyen.

6. Standard Three General Science Research 1987-1988. C.A. Macdonald.

Sample science and geography materials were also produced, together with commentaries on their use.

EKSERP

Die Threshold-projek, wat aangepak is deur die Instituut vir Taal- en Kunstenavorsing, het ontwikkel uit 'n loodsprogram wat in 1985 onderneem is oor kinders in st. 3 (vyfde skooljaar) in skole van die Departement van Onderwys en Opleiding (die grootste swart onderwysdepartement in Suidelike Afrika) wie se moedertaal Sepedi is en wat van die begin van st. 3 deur medium Engels (EMI) begin leer het. (Die meeste van die swart leerlinge in die verskillende onderwysdepartemente begin om Engels in hierdie stadium as die onderrigmedium te gebruik: die beleid staan in die tweetalige onderwysliteratuur tegnies bekend as "vertraagde indompeling".) Die navorsing was betekenisvol aangesien dit die eerste was om 'n terrein aan te spreek wat naastenby 'n generasie lank polities sensitief was.

Die aanvanklike navorsing het aangedui dat die standaard van die kinders se Engels swak was, en dat hulle veel minder daartoe in staat was om "inhoudvakke", byvoorbeeld Algemene Wetenskap en Aardrykskunde, deur Engels te hanteer as deur hul moedertaal. Terwyl hierdie navorsing onderneem is, is 'n versoek aan die Chairman's Fund van Anglo American in Johannesburg gerig dat 'n projek van drie jaar onderneem moet word om die parameters van die kinders se probleme dieper te ondersoek, en om aanbevelings vir konstruktiewe verandering te maak. Die toekenning vir die projek is ontvang deur die Institute for the Study of English in Africa (Rhodes-universiteit, Grahamstad), wat in die advieskomitee van die projek verteenwoordig word. Senior en junior navorsers het die projek tussen 1986-1988 onderneem. Daar was te alle tyd vier of vyf lede in die span, wat uit navorsers, navorsingsbystand en administratiewe personeel bestaan het.

Daar was vier aanvanklike doelstellings met die Threshold-projek:

* eerstens, om die aard en omvang van die taalvermoëns van die swart leerlinge in st. 2-3 te beskryf;

* tweedens, om die aard van kinders se redeneervaardighede te beskryf aan die hand van 'n model wat ons begrip van hul prestasie in skoolleertake sal verhoog;

* derdens, om die verskil te beskryf tussen wat van 'n kind in st. 2 in Engels as 'n vak verwag word (konvensionele Engels tweedetaalonderrig), en wat van dieselfde kind verwag word

wanneer hy begin om Engels in die inhoudvakklaskamer te gebruik (d.w.s. EMI);

* vierdens, om die aard van die kind se skoolgebaseerde leerervarings te beskryf en om te bepaal hoe sodanige ervarings doeltreffende leer bevorder of strem, en

* laastens, om beginsels saam te stel wat daarop gemik is om sillabusopstellers en kurrikulumontwikkelaars by te staan.

Belangrike terreine van moontlike verandering wat die navorsers geïdentifiseer het, sluit die volgende in:

* die nodigheid om informele en formele transaksies tussen verskillende onderwysdepartemente to bevorder met die volle sekerheid dat, waar transaksie plaasvind, aanpassings aan die blanke sowel as swart sisteme gemaak sal word; daar is behoefte aan groter swart en Engelse verteenwordiging in die huidige Department van Onderwys en Opleiding;

* die oopstel van die taalbeleid wat tans as wet bestaan en die oorweging van of 'n beleid van "geleidelike oorgang" of 'n aangepaste beleid van "dadelik Engels" in regeringskole. Die ontwikkeling van 'n geleidelike oorgang eerder as 'n "diepkant", skielike oorgang na Engels, sou beginselbesluite vereis rakende die keuse van vakke wat vroeg in Engels onderrig behoort te word teenor dié want tot later in die moedertaal behoort te bly. Hierdie keuses sal die ontwikkeling van onderrigmateriaal betekenisvol beinvloed.

* die verdere gebruik van etnografiese navorsing (deelnemende waarneming) in die plaaslike situasie waaruit klaskamerpraktyke en programelemente kan spruit: die primêre fokus uit 'n kognitiewe standpunt is egter die behoefte aan 'n uitgebreide ontleding van die kind se leertaak, en die vraag hoe die leersituasie en die onderwyser by die eise van die taak kan aanpas;

* die vermindering van die opvallende ongelykheid tussen die junior en die senior primêre fase deur lewenskragtige kurrikulumontwikkeling, waarin sowel temas as (kognitiewe) prosevaardighede versigtig opgebou word; en,

* die aanvaarding van fundamenteel nuwe beginsels en praktyke vir die ontwikkeling van onderrigmateriaal; hier meen die navorsingspan dat die kind deur die oorgang van

basiese interpersoonlike vaardighede (BICS) tot by kognitiewe akademiese taalleer (CALLA) gevoer moet word. Daar is ook voorgestel dat die handboeke vir st. 3, soos hulle tans daar uitsien, heeltemal ontoereikend is vir die kinders se behoeftes. Argumente word aangevoer, en die saak word gestel vir die ontwikkeling van gekombineerde teks-werkboeke wat prosesvaardighede saam met taal vaardighede sal ontwikkel.

Vir elkeen van die eerste vier doelstellings is 'n finale verslag opgetsel. Die vyfde verslag dokumenteer die navorsing oor Algemene Wetenskap in standerd drie en die ontwikkeling van die onderrigmateriaal wat vir die projek onderneem is. Die hoofverslag (die sesde gepubliseerde dokument) is nie net 'n opsomming van die vyf finale verslae nie, maar behels 'n integrasie van die ontleding volgens drie parameters, te wete die histories-politiese, die sosiokulturele en die opvoedkundig-sistemiese. Hierdie parameters word ondersoek vanweë hul bydrae tot ons begrip van die huidige situasie en om die soort verandering te verstaan wat op elke vlak moontlik kan wees.

Ongeveer 50 werksdokumente is in die loop van die navorsing geproduseer; die volgende is die amptelike dokumente van die projek:

1. Crossing the threshold into Standard Three: The main report of the Threshold Project. C.A. Macdonald.

2. How many years have you got? English language skills evaluation. C.A. Macdonald.

3. Ballpoint pens and braided hair: an analysis of reasoning skills and the curriculum. C.A. Macdonald.

4. Swimming up the waterfall: a study of school-based learning experiences. C.A. Macdonald.

5. The disparities between Standard Two English-as-a-subject and Standard Three English-across-the curriculum. W. van Rooyen.

6. Standard Three General Science Research 1987-1988. C.A. Macdonald.

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CHAPTER ONE

INTRODUCTION

1.1. THE PROBLEM INTRODUCED

> Solly M. is a lad of 16 who is now in Std 4 (sixth grade) in a school in Winterveld which is a very poor area under the jurisdiction of the Bophuthatswana Department of Education. Solly's mother tongue is South Ndebele, but he learned to read through the medium of Setswana (which is from another language group). Solly has failed four years so far at school, and he has a great deal of trouble understanding any English. His Afrikaans is a little better. Solly is looking forward to dropping out of school after Std 5, and does not want to go to trade school, as his father, an illiterate builder, dearly wishes him to. His prospects for getting a job as an unskilled labourer are extremely slim.
>
> Jan D. is also a lad of 16 in Std 4 in a Setswana medium school in Mamelodi, a well-established Pretoria township. He started school late, and has only failed twice. Jan is being brought up by his grandmother (as his mother died very early of epilepsy) in a house just opposite his school, which is known for being well run, and has the best physical facilities which could be offered by the Department of Education and Training. Jan's grandmother is Zulu speaking, and although she has very little education, she does speak Sepedi to her husband, also the local township version of Setswana, and colloquial Afrikaans. Jan is shy and retiring; his grandfather (a retired policeman) rules the family with a rod of iron. Jan cannot carry out a conversation in colloquial English. He has no idea of what he wants to do after he has completed his formal schooling.

These two boys are personally known to the author; they come from two very different backgrounds, but what they do have in common is a history of educational failure, a lack of self-con-

fidence, and an inability to use English meaningfully either in formal learning situations, or in bilingual interactive encounters. They feel alienated from the structures of school, even though their families lay great store by the possibilities of advancement through education. The situation of first learning through the mother tongue (or another African language), and then transferring to English as the medium of instruction in Std 3 (fifth grade) is the problem domain of the Threshold Project. The two vignettes above give some inkling of the complexity of the problem.

In the 1970s the debate about the medium of instruction in black education came to a head, and in most education departments it was decided that either official language (that is, English or Afrikaans) could be chosen as the medium of instruction from Std 3 or later. The new policy meant that teachers and pupils had to adjust to a new situation, having previously taught and learned through the medium of the mother tongue throughout the primary school phase. Another change, namely the fact that the education departments in the Republic of South Africa are all required to adhere to a core curriculum, means that black education is at least nominally brought into line with the other departments. However, the introduction of a core curriculum carries certain contradictions within itself, as we shall see in the course of the report.

However, observational information from a number of sources has indicated that while the new language policy might be more in line with what the community itself had so ardently longed for, its

implementation is not unproblematic: both teachers and pupils seemed to be experiencing serious difficulties. It was this situation which prompted the project leader to initiate the Threshold Project: in the terms of the HSRC this is self-commissioned research, which does not initially have a specific client. It has thus been open-ended and problem-defining research: however, it is anticipated that the findings which are reported here will be of help in decision making.

The problems of black education have been defined in various terms, historical, political, cultural, and economic. However, the received interpretation (cf. the De Lange Commission, 1983) is to analyse the situation in ahistorical, systems terms. In the words of the then Acting Director General, Dr Meiring, (Network Programme, 31/1/1989) the system is a "developing" one, and therefore should only be compared with itself. The Department of Education and Training describes itself in terms of educational statistics; for example, there are supposedly 96 factors having a bearing on pupil performance in the matriculation examination. From the point of view of the present research, the interest does not lie so much with how many factors one can identify: rather, there would be greater explanatory value in being able to give form to levels of analysis of the problem, where each level creates meaning and therefore the potential for analysis and prediction for change in specifically human terms.

1.2 QUESTIONS ADDRESSED ON THE PROJECT

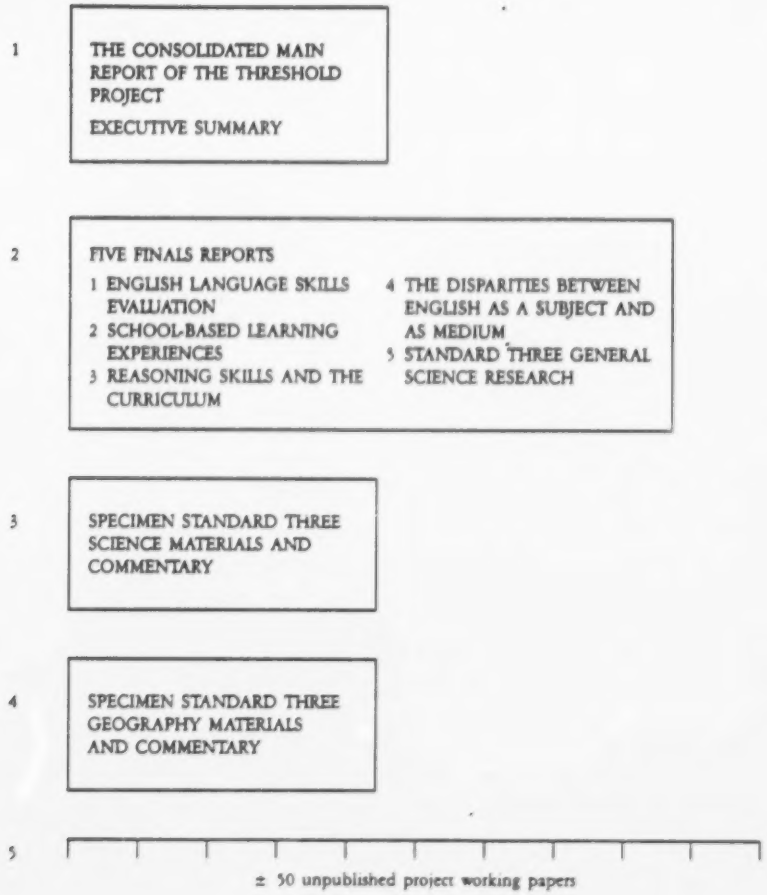
The superordinate problem which the Threshold Project has addressed is the nature of the language and learning difficulties which Std 3 children experience when they change from the mother tongue to English as a medium of instruction.

We were concerned to conceptualise our research in a way which would facilitate the design of coherent and constructive strategies for change. It was felt at the project planning stage that this would best be achieved by focussing on five interrelated factors, namely, the linguistic difficulties experienced by the children, thinking styles (which might be culture specific), problems with content subject textbooks, disparities between English learned as a subject and English as required across the curriculum, and finally, school-based learning experiences. These factors were formulated into five main objectives, which became the foci of practical organization for the project. The objectives were as follows:

1. To describe the nature and extent of the linguistic abilities of the Black pupils in Std 2 - 3. The corresponding final report is entitled *English Language Skills Evaluation.*
2. To describe in some detail the nature and extent of pupils' cognitive capacities using a model of natural thought which has implications for curriculum design. The corresponding final report is entitled *Reasoning skills and the Curriculum.*

3. To develop a description of the present expectations of syllabus makers and textbook writers regarding the competence of English of children in Std 3 who are beginning to learn their subjects through the medium of English and to relate such a description to the content of two lower-primary English courses in such a way as to illuminate possible disparities between the English and content-subject courses. The corresponding final report is entitled *Disparities between Std 2 and Std 3 demands.*
4. To describe the nature of school-based learning experiences and their contribution to the nature and kind of learning which children are able to engage in by Standard Three. The corresponding final report is entitled *School Based Learning Experiences.*
5. To produce guidelines or principles intended to inform syllabus makers and curriculum developers. Guidelines and principles are included in all the final reports, which include the four mentioned above, together with another entitled *Standard Three General Science Research.* An attempt is made to integrate these guidelines and principles in the present consolidated main report.

A model of the structure of the project reports is reproduced in Figure 1.1 overleaf. It will be seen that the current report is the only first tier report (apart from an executive summary), while the rest constitute what we have called second tier reports. Project specimen learning materials constitute the third tier documents, while unpublished, working documents of the project are at the fourth tier.


1
THE CONSOLIDATED MAIN REPORT OF THE THRESHOLD PROJECT
EXECUTIVE SUMMARY
2
FIVE FINALS REPORTS
1 ENGLISH LANGUAGE SKILLS EVALUATION
2 SCHOOL-BASED LEARNING EXPERIENCES
3 REASONING SKILLS AND THE CURRICULUM
4 THE DISPARITIES BETWEEN ENGLISH AS A SUBJECT AND AS MEDIUM
5 STANDARD THREE GENERAL SCIENCE RESEARCH
3
SPECIMEN STANDARD THREE SCIENCE MATERIALS AND COMMENTARY
4
SPECIMEN STANDARD THREE GEOGRAPHY MATERIALS AND COMMENTARY
5
± 50 unpublished project working papers

Levels 1-3 are published.
Level 4: limited distribution.
Level 5: unpublished.

1.3 A BRIEF HISTORY OF THE PROJECT

In 1985 Dr C A Macdonald initiated a pilot project in the Pretoria township of Soshanguve concerning the varying competences of Std 3 children in English as a subject, English or Sepedi as the medium of instruction, and Sepedi as a subject. During September of that year she was joined by Mrs J Sikhosana, seconded by the Department of Education and Training until the end of 1986. During the course of 1985 a proposal, supported by Mr J Strydom (then Chief Director in the Department of Education and training), was submitted to the Anglo-American and De Beers Chairman's Educational Trust Fund for a three year research grant. This grant was awarded and enabled the Threshold Project to start officially at the beginning of 1986. At the time Mr G R Walker joined as a chief researcher, and Mrs H van Rooyen as an assistant researcher. In April 1987 Ms A Letsholo joined the project as research assistant (replacing Mrs Sikhosana), and Mrs P du Toit joined as administrative assistant; in July 1987 Mr Walker left the project. After Mr Walker's departure, aspects of materials development and evaluation were contracted out to Ms E Burroughs, previously of the Department of English, University of Pretoria. The project officially came to an end in December 1988, although report writing continued into the second half of 1989.

1.4 MODUS OPERANDI OF THE PROJECT

The kind of information which was gathered on the Threshold Project was extremely diverse: there were scores on tests, observation schedules, interview transcriptions, notes from qualitative observations, and much besides. It was conceived that all this information would be interwoven in different ways to answer the main questions we had asked ourselves on the project. The research was essentially *artistic* (Eisner, 1985, p.198-9):

> Historically, one of the traditional aims of science is the discovery of truth ... Science aims at making true statements about the world.
>
> Artistic approaches to research are less concerned with the discovery of truth than with the creation of meaning. What art seeks is not the discovery of the laws of nature about which true statements or explanations can be given, but rather the creation of images that people will find meaningful and from which their fallible and tentative views of the world can be altered, rejected, or made more secure. Truth implies singularity and monopoly. Meaning implies relativism and diversity. Truth is more closely wedded to consistency and logic, meaning to diverse interpretation and coherence. Each approach to the study of educational situations has its own unique perspective to provide. Each sheds its own unique light on the situations that humans seek to understand. The field of education in particular [...] needs to avoid methodological monism. Our problems need to be addressed in as many ways as will bear fruit.

As we have already indicated above, the research was concerned with the creation of meaning; we were concerned with the drawing of a detailed picture which researchers and other

concerned people can identify as authentic and therefore will find meaningful (see particularly 2.2). In Chapter Two, we will lay out the assumptions of our research: it is important to do this because this kind of research has rarely been attempted on such a scale, and particularly in such a sensitive context, in this country.

1.5 OVERVIEW OF THE CONSOLIDATED MAIN REPORT

It will be seen that the sections of this report do not directly correspond either with the objectives of the project, or with the division of information among the five final reports. This is a deliberate strategy (not designed to mislead those who would skim this report), since the purpose of the present account is to extend the analysis which has been referred to only in part elsewhere in project documents.

In Chapter Two the research paradigm in which the research was conducted is described in some detail. A good deal of importance is attached to the need for validating the paradigm which is used.

In Chapter Three, historical developmental aspects of black education are described. Possible directions of change on the broader political front are outlined, and then there is a description of different possibilities for change in the current language policy. (A related section can be found at 5.8).

In Chapter Four sociocultural aspects of the situation are described. The relationship between culture and the curriculum is discussed with particular reference to cultural relativism, and then a Vygotskian analysis of the teaching-learning situation - "the way things are done" - is described. The constraints on transactions between "systems" (i.e. interpersonal or inter-departmental) in the socio-educational sphere is then described. The open schools and general issues of multiculturalism in education are considered, as they are presumed to represent on the micro-level what will have to be faced by many schools in the future. Finally the broad outline for a model for the study of the child and the developing curriculum is given. **NOTE: This chapter is the most theoretically constrained section of the report. Readers may want to read Chapter Five first if they are primarily interested in the specifically language-oriented aspects of the report.**

In the first part of Chapter Five there is an introduction to the educational situation as we generally observed it, followed by a description of some specific school-based teaching and learning experiences. The performance of children in English is described in qualitative terms and the disparity between the demands of English as a subject and English across the curriculum is revealed. The particular difficulties which can be encountered in content subjects classrooms are graphically described.

In the second part of Chapter Five, which deals specifically with movements towards change, there is first a description of the particular changes which can be made in teaching style at this

time. Attention is paid to the need for careful curriculum development to reduce the disparity between the junior and senior primary phases. Possible English policy models and their specific implications are discussed in a self-contained section (5.8), and then recent productive developments in bilingual education theory are applied in an introductory way to our present situation. Finally important principles and processes of materials development are outlined.

In the Sixth chapter, there is a short summary of the directions for change which have been outlined in Chapters Three, Four and Five.

CHAPTER TWO

RESEARCH PARADIGM

2.1 APPROACHES TO RESEARCH

It was in the language of the old paradigm of psychological research that I was thoroughly and efficiently trained. Most psychologists know this language: "representative sample", "adequate sampling procedures", "multifactorial research design", "formulation of the null hypothesis", "main effects and interactions", "norm referencing", "reliability" and "validity" etc, etc. In their own terms, these terms have clear referents, and have been well-researched and thoroughly developed. However, by attempting to be "objective", many research psychologists have inadvertently become "objectivists", making people into sets of variables, abstracting the meaning from the values and intentionality which more properly characterize people as people. They also abstract people from their normal social context. What is ironic about the so-called search for objectivity is that the old paradigm concept does not come from the advanced sciences themselves, but rather from 19th century positivist philosophy. So for example, psychologists define causal relations in terms of a time-sequenced multiple correlations, making the assumption that causally related events should correlate with each other over time, and not correlate with other events. Once again, we have people's intentions (an acceptable cause or explanation for action as far as phenomenologists are concerned) cut neatly out of the picture.

But the most admired exemplar of the advanced sciences, that is, physics, has an infinitely more sophisticated notion of causality (Harre, 1981, p.14):

> Instead of a world of passive beings waiting quiescent, independent, and unchanging, to receive an external stimulus to action from another moving body, physicists conceive of a world of permanently interconnected, mutually interacting centres of energy, which native activity is modulated and constrained by other such centres. The immediate cause of motion is the removal of a constraint from an active material being - for example, removal of a support from a body located in the gravitational or electromagnetic field, a body which has an active tendency to accelerate. Not even the mass of a body is a passive, independent property. According to Mach's principle, even the most intimate power, the power to resist acceleration, is an endowment from the system of bodies that make up the universe as a whole.

The point of this extended quotation is not to give the reader an unasked for lesson in subatomic physics; rather, it is to plant the germ of an idea of how sophisticated a notion of causality we could build at the social level. So, for example, we could say something like this: instead of perceiving the social world as comprising individuals who are passive, unchanging, and independent of each other, who wait for external events to stimulate them to action, we should perceive of it as a world of permanently interconnected individual (actors), who are characterised by intentions, which in turn are modulated and constrained by the intentions of other people. The natural tendency of people is to create meaning as a function of the social context which

they find themselves in.

Harre (ibid) would claim that causal processes occur in human beings. However, we would claim that causal processes must reside at other levels as well, specifically within different social groupings, and at the economic and political levels too. In different configurations, we are able to do what the situation allows us to do (Pascuale-Leone, personal communication), and it is when the social situation visibly changes that we become more consciously aware what it is we usually do, or are now able to do (Craig, personal communication).

We shall return at the beginning of the next chapter to the role of causality in scientific explanation. The points which have been made thus far are that many psychologists have left people out of their accounts, and have not allowed for internal causes or nexes of causes as valid accounts of phenomena. In contrast, new paradigm psychologists adopt as their basic social premiss that people are human beings, not isolated from their normal social context, being participating social beings who construct meaning and structures for themselves, in fact who structure and constitute the social context itself, at the same time being influenced and constrained by structure.

What the old and the new paradigm researchers do hold in common is that they would require one to make clear where one comes from, that is, one's theoretical orientation, and to acknowledge one's intellectual debts. In our case, at a political level, the researchers came from liberal English or Dutch backgrounds.

These similar backgrounds have determined the type of literature which we would read, and the ways in which we would construe the problem at hand. As a team, our pooled resources included background in English literature, English language, theoretical and applied linguistics, and cognitive developmental psychology. As a consequence, a range of issues relating to second language learning in a primary context were addressed, as well as some questions on cross-cultural cognition.

There are five presuppositions which were brought to bear on our research that are worth presenting at this point. Following a major trend in contemporary thought about the nature of social enquiry, the first is that we do not believe in the possibility of a value-free "scientific" paradigm for the study of educational processes. Educational processes are located in specific historical-political contexts which affect what change it is possible both to observe and to bring about. In particular we were wary of according the notion of teaching method too large a weight in explaining the difficulties which teachers and children find themselves in. Rather we were concerned with analysing what the children bring to the learning situation, what their teachers bring to the teaching/learning situation, everyday models of learning and teaching, and the material resources the teacher and children have for tackling their formal school tasks.

The second presupposition arises from the awareness that we as researchers come from a different socio-historical trajectory from our subjects. So, for example, we would take the principles to child-centredness as central to good teaching practice, and

traditional teacher-centredness we would take as somehow being bad. French (1989, p.8) has a trenchant remark to make on this point:

> The proponents of progressive approaches to education tend to have a highly developed sense of individual autonomy, and also to have had the privilege of being steeped in a culture which gives special value to self-criticism and self-awareness. The belief that everyone else is basically like they are and is yearning to be liberated (if only they new what was good for them) is a fond illusion of many idealistic educators. This attitude might paradoxically constitute cultural imperialism on the one hand, and lead to a failure of confidence on the other.

The third presupposition of the research is closely related to the second. As Hurst (1983) notes, most of the research on innovation in education has been done in a Western context, where the assumption is that decentralization and participative decision-making are to be highly valued. He points out that decentralization does not of itself necessarily make organisations more innovative; more important is the need to understand the problems of implementation. Power-equalization, also a highly favoured Western value, may not resonate well with other cultures. Hurst's own proposal for the implementation of innovation regards the approach and management of the implementation as secondary to the primary objective of bringing about a state of affairs in which participants perceive that a change of practice will probably be an improvement and that the risks entailed are acceptable. While the nature of the implementation of innovation is not explicitly addressed in this report, it should become clear that nowhere are "radical" changes in a conflict model (for example, a Marxist one) advocated. It has been the concern of the project leader to

try to identify dynamic change which is actually taking place, and suggest that these actually occurring changes be taken as ideal points of intervention in innovation.

The fourth presupposition relates to the status of the theories that are used in our analysis. In relation to language teaching theory, we have used Communicative Language Teaching - the dominant paradigm - as a point of departure for analysing the specific demands of using English as the medium of instruction (cf. particularly the English Language Skills Evaluation final report). However, in order to describe the children's experience of school, their interaction with their teachers, and their cognitive development, we found the Vygotskian approach to be the most congenial. In essence Vygotsky is an interpretivist: Bruner (1987) sees his method of urging "thick interpretation" (Geertz's 1973 term) as indispensable in the extraction of meaning, interpretation that takes into account not only syntax and lexis and the settings of the social convention, but also the underlying intentions and desires of the actor in the situation. Vygotsky (1987, p. 283) has this to say about his analysis:

> An understanding of another's words requires more than an understanding of words alone; it requires that one understands the other's thoughts. However, even this understanding is an incomplete understanding if we do not understand the other's motive, the reason that he has expressed his thought. In precisely this sense, we take the psychological analysis of any expression to its end only when we reveal the final and most secret plane of internal thinking, that is, motivation. With this, our analysis is ended.

There are other theories that we could have chosen as our point of departure. If this had been so, we would have asked different questions and found different answers. However, using the Vygotskian approach seemed to be the most promising since it links culture, language and learning in a way that no other theory has been able to. We need to say that our analysis has not generated "the truth" in any determinate sense: in the Rortyian (1983) sense, we have merely tried to find out more about "how things hang together". When we present the Vygotskian analysis in Chapter Four, however systemic and tight the language might feel, our interpretation is, in the final event, tentative.

The fifth presupposition relates to the ethics of doing research: the teachers and children with whom we worked did not simply constitute our research objects, but they have been part of the research process. Being part of the research process also entails that they are part of the dissemination. There is no question of doing research "about" a topic, and simply publishing the research in an accredited journal. In research on a topic such as we addressed, the process of dissemination should work right through as many academic and public channels as possible until it becomes part of a more general consciousness, owned by the people, who may then take action on it. This is what French (1987) has referred to as affirmative action in the distribution of the resources and benefits of research. We have in mind to raise to public awareness and debate the need for formulating a language policy that meets the needs of the child while still accommodating to the political aspirations of the broader community.

2.2 ILLUMINATIVE RESEARCH

For nearly two decades now, the concept of "illuminative evaluation" has been in the process of being developed. It is a concept of research, usually in an educational context, which evaluates the effects of a particular programme, usually for a particular client. The research on this project has been broadly based, and has not been for any particular client (if anyone, our clients are the children themselves): hence we would not like to describe ourselves as doing "evaluation" per se. However, we would like to present our approach in illuminative terms, since they are readily accessible, and unpretentious in their claims. The following description is based on Parlett (1981).

In looking at the problems to be studied, the most important issue is to establish what questions and problems are of the most concern. In the project we have had a planning document to guide us, but the issues at the time the document was negotiated were stated within broad parameters which could be more specifically defined as the researchers became more familiar with the problem situation. The basic purpose of the research was not so much to come up with a set of prescriptions, but rather to increase communal awareness of issues by bringing questions which can often get left in the background, into the foreground. By increasing awareness of central issues, the intention is to stimulate the questioning and improvement of policy and practice. We have given some indication of the direction of this in the fifth

presupposition in section 2.1 above.

Illuminative research uses naturalistic methods: the broader research design changes in the light of an expanding knowledge base. Although one formulates thematic lines of enquiry, the arrangement of these themes, too, goes through successive transformations. So, in our case, we moved very early on from a concept of a language based issue, to a broader consideration of cognition and school-based learning experiences, and our final integration includes historical-developmental, socio-cultural and educational aspects. So the heuristic research design has allowed for a progressive focussing of issues. When we come to discuss questions of validity in 2.4 below, the nature of the method will be further elucidated.

In developing an underlying conceptual framework for the project, we assumed that the junior primary system cannot be viewed in isolation from its wider contexts. We wanted to probe below the surface features of the situation, too, looking for deeper structures which give rise to explanation (cf. 3.1.). And yet the situation which the children find themselves in is unique, and requires a biographical account. We have wanted to capture a recognizable reality, weaving or cobbling (depending on the fineness of our insights) a picture which people can identify with, and having identified with the first picture, see the relationship with the second picture which we might be able to create, a picture of change.

Jahoda and Lewis (1987) point out that ethnographic descriptions take a long time to develop, since the generalized descriptions arise from a gradual distillation of voluminous field notes that have usually be collected over a period of years. In this regard, the Threshold Project is no exception, as this report arises from five years of varied experience in black primary education.

In a divided society there will necessarily be no one reality shared by all; rather there are numerous perspectives working in a culturally diverse setting in which perceptions differ about the nature of the problem. It is hoped that the richness of the description in the following chapters will do justice to the different perspectives. The fact that all the researchers came from outside the state education systems, and each from a slightly different background in itself meant that each situation which we jointly experienced availed itself of different interpretations.

The basic commitment to multiple perspectives is intended to preserve the integrity and independence of the research. While the presuppositions which the author brings to this report have been made explicit, they are not intended to dominate the interpretation. Rather, various theoretical viewpoints (cf. 2.1. above) were adopted in the course of the different phases of the project, and the theories determined what was considered as data. In this way we completed various hermeneutic circles, and these circles now have to be brought into relation with each other.

2.3 DIFFERENT BASES FOR DESCRIPTION USED ON THE PROJECT

We have talked about creating a picture which should be recognizable to the readers, but for this we needed thread of different thicknesses and colours. These different threads were constituted from a multitude of kinds of data. There are at least six different kinds which can be readily identified:

a. We gained valuable information from non-standardised, purpose-built paper and pencil class tests. For example, we discovered how well children could do simple comprehension questions in English; we also found out what they know about a section of biology, in their mother tongue and in English.

b. At the class level, we also made systematic quantitative and qualitative observations. For example, we used matrices to track patterns of teacher-pupil interaction, but we also made qualitative notes on how the teachers used the materials they had to hand.

c. We had a valuable opportunity to interact as participants when we did limited inservice teacher training. We worked with teachers, both as tutors and "students", gaining first hand knowledge of their response to innovative strategies.

d. As part of our in-school observations, we also conducted a number of partly structured interviews, both with teachers and children. As part of entering into the participants' reality, there was a ready intermingling of both English and Setswana data here.

e. Also at the individual level, we conducted several quasi-clinical experiments: these were to establish the nature of the children's process skills and metacognitive strategies. Most of the individual work was conducted in the mother tongue.

f. Last but not least, an invaluable source of information was the everyday social intercourse of running a project; informal interaction with departmental, circuit and school personnel, as well as with one's own colleagues does much to inform one's own unspoken presuppositions about "how things are done".

2.4 QUESTIONS OF VALIDITY

Whether one is doing old or new paradigm research, the notion of the validity of the research i.e. its soundness or well-foundedness, still applies. In old paradigm research, validity is a thoroughly researched concept, and various kinds of validity have been defined. For example,

a. there is face validity, which asks whether the test appears to measure what it is supposed to be measuring;

b. there is content validity, which asks whether the test constitutes an accurate representation the kind of competence which is supposed to be being tested;

c. there is construct validity which asks whether the test is a well-founded representation of an abstract theoretical notion;

d. there is convergent validity which asks if different sources of data would support the same interpretation, and

e. there is contextual validity, which compares different evidence on the same point, as well as evaluating the source of the evidence itself.

The first three types of validity are characteristic only of old paradigm research, and it can be specifically pointed out that they have to do with method and instruments, and are not in the first instance about people (Reason and Rowan, 1981). The last two kinds of validity can be found in both paradigms, although their personal aspect has particular relevance for new paradigm work. For example, since validity is interpreted in terms of how the researcher uses herself as a knower and enquirer, interpretations are strengthened on the basis of using different methods, different sources, and different researchers. Although aspects of our research appealed to all these criteria of validity, the emphasis was on the last two, as these two were the most appropriate to our purposes.

The ways in which convergent validity was used in the project are too numerous to describe here, although the section above on the different data bases should have given some indication. For example, we tried to establish how difficult children find it to learn general science in English in Std 3 by -

a. analysing their textbooks in relation to their English language texts and how the teachers and their pupils use them;
b. analysing their ability to explain concepts in their mother tongue and English;

c. comparing how much they could have learned through the mother tongue with how much they could learn through English;

d. observing their linguistic and nonlinguistic behaviour in individual and classroom contexts, on purpose-built tasks and specifically designed specimen materials, and so on.

At the end of a complex enterprise, we were able to conclude that children are not able to manage very well with the constraints operating in a typical Std 3 science classroom, and neither is it very easy to facilitate the process of change and improvement. (The details of this research are contained in the report entitled *Standard Three General Science Research*.)

The way in which contextual validity was principally used was by comparing and contrasting findings of project research with other South African and African writing. For example, we have clear descriptions of what seem to be typical teaching-learning patterns of interaction in the writing of Hawes (1979), McGregor (1971), Durojaiye (1982), Craig (1985) and Kok (1986). These workers are, respectively, two African educationists (British), a Nigerian educational psychologist, a local cognitive developmentalist, and a local clinical psychologist. It has to be said that there is a regrettable lack of developmental psychology research concerning black children in South Africa (Liddell et al, 1989), and an almost total absence of writing about the language learning of primary school black children. So to some extent the project has functioned in uncharted territory, although (to extend the metaphor) previous explorers have plenty of anecdotes, and informal folk-lore models are extensively shared by workers in the field.

CHAPTER THREE

HISTORICAL DEVELOPMENTAL ASPECTS

3.1 INTRODUCTION

The issues which we introduce in this section are:

(i) the differences and links between description (analysis) and explanation in social theory,

(ii) the nature of causal (generative) processes (where we rely heavily on Harre and Secord, 1972 and Harre, 1981),

(iii) and the necessity for accounting for change (a perennial issue on a individual and social level, cf. for example, Miller, 1989.)

It will be remembered that we treat people as valid sources of information (rather than treating them as a set of variables), and so the first part of a descriptive theory would be to investigate their conceptual schemes which they use to produce their own actions and understand those of others. This folk-psychology is amplified into a growing analytical scheme by a dialectic which is created between the folk psychology and what is amplified by the skilled observer's investigation. The analytical concepts which emerge from this process help to reveal non-random structures, ordered patterns of actions interpreted as the performance of social acts. But what are the processes that produces the pattern? When we look at causal or generative processes, we move to the second level of theory, that of explanation.

Clearly the level of description and explanation should be *co-ordinated* (in other words, have significant and understandable connections). The underlying structure which is identified at the descriptive level in facts forms part of the "generative mechanisms"[1] or processes. The underlying structures could be seen as templates shaping the form of actions.

How can we discover the nature of these generative processes? They may be more or less accessible, and three levels at least may be distinguished. For example, the first level of *fully accessible* processes - discovered by exploration - could be seen in the relationship between the printed litany and a church service, or perhaps, more aptly in our case, the relationship between the teacher's manual and the structure of an English lesson. (Of course it is interesting - and critical to our enterprise - to discover reasons why there is not a simple one-to-one relationship in the case of our second example.)

The second level of *quasi-accessible* processes, are discovered by the joint methods of exploration and imagination. For example, by analogy, one can fill in details from similar systems which are fully known. In our situation, we could try to explain teachers' actions by extrapolating from an explanation of their motives

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[1] The use of the term mechanism as used specifically by Craig (1985) does not specifically imply that there is any absolute determinism in their operation. It is necessary to invoke a second level of analysis if there is to be a differentiation between description and explanation (cf. the caveat in Chapter Two on the relativity in choosing theories).

which would have general currency in a variety of social situations. Alternatively perhaps, we might have to infer intentions from the structures of the situations which repeatedly occur, intentions which people could perhaps not bring to consciousness very easily.

Geertz (1973, p.227) introduces two interesting notions in his analysis of how it is possible to discover how people think. He differentiates between *experience-near* concepts and *experience-far* concepts. An experience near concept is what a person from a culture might "naturally and effortlessly use to define what he or his fellows see, feel, think, imagine and so on". An experience-far concept would perhaps not be definable at all. An example of an experience-far concept is the concept of personhood. For example, in Java, Bali and Morocco people do not use this concept and there is no generic concept of self with clearly defined criteria. When using experience-distant concepts we are enabled to understand their distinctive symbolic forms by indirect means such as allusion, jokes, puns, etc.

In our educational context it is important to establish what experience-distant concepts play a role: for example, we suspect that the notion of motivating the child's independent intrinsic drive towards mastery is foreign to the teachers, yet we as researchers found the notion productive in explaining children's behaviour. However, there is a dialectical interplay between the two kinds of concepts - one cannot sharply distinguish between reflective and nonreflective understanding (Geertz, ibid, p.19):

> What prevents us from grasping what people are up to is not ignorance about how cognition works (but) a lack of familiarity with the situation within which their acts are signs.

Turning now to the third level of *inaccessible* processes, the description of causal processes would derive from the imagination under rational control, usually by the creation of models. The imagined generative processes must conform to a general description of how scientists of the time believe the world really is. We must have some confidence that the models which are constructed might be real (perhaps we could invoke the criterion of psychological plausibility or possible psychological reality). Iconic models play two critical roles; firstly, as we have pointed out, they are the basis of existential hypotheses about the reality of certain classes of entities, and secondly, they are the basis of further hypotheses about the nature and behaviour of such entities. Verifying these further hypotheses serves as a way of evaluating the theory. Having detailed the levels of generative processes which can be constructed, we ourselves are not able to account for all that we have seen and observed in terms of well-validated generative processes; indeed, we would regard this as the work of a whole paradigm, not of a project.

What we feel needs emphasising is that generative processes will operate at different levels of analysis of society, for example,

a. our economic system is affected by the beliefs outsiders have in the stability of our political system, and its capacity for constructive change;

b. our political system is affected by the beliefs that people have regarding the possibilities for change in the current dispensation; so for example, we get intra- and extra-parliamentary groupings;

c. our school system is affected by the beliefs that people have about the possibilities for genuine reform, for example, in the shape of a unified educational system.

The "beliefs" operating at the different levels may operate as specific theoretical terms, others may need to be described in the more "primitive" language of everyday life at this stage.

Implicit in the three examples given above is the notion of *change*. This concept has to be accounted for in an analysis of development, whether it be of a child or of an educational system. At the most abstract theoretical level, we might say that social structures generate human action, and that human action in turn (given that fact that it has intended and unintended consequences) generates social structures (Miller, 1989). In other words, we are able to project ourselves into the future by creative acts of imagination largely mediated by language; and our transformed actions will create new sets of relations with different properties.

Very few people would argue with the observation that not only are there developmental processes we can identify in childhood, but that we can identify changing patterns of childrearing as well. However, at a group (ethnic) level, specifically in this country, processes of cultural development are either glibly passed over or denied, because we have often treated culture as an object. So

for example, one group of Afrikaners thinks that the "traditional" habits, customs and values of their group should be preserved, and are absolutely outraged that another part of the community (the new Afrikaans "liberals") sees fit to look to a future, explicitly involving a renegotiation of habits and values. The first group has reified culture, while the second group sees culture more in process terms. It is the first group which would want the different African communities to stay in some traditionally conceived "place", whereas these communities are manifestly in the process of developing new forms of culture. (The problems associated with reifying the notion of culture is discussed further at 3.3 below.)

It is at the heart of our explanatory account of the problems in primary black education that we should want to look at questions about the processes and possibilities for change at different levels. We look first at the situation conception of the historical-political situation that we find ourselves in.

3.2 SITUATION CONCEPTION

There are different ways of analysing political influences on education over time in our country. We shall be looking very briefly at the influences of colonial education, education in an industrializing nation, national education policy, and emergent language policy. However, to introduce the discussion, we first look briefly at social structure and politics, and consciousness and action.

As we have indicated the section above, one of the features of social reality is that it is structured and sustained through the interaction of individuals. Also, social reality determines the range of possible interpretations of reality which are available to individuals to possess, and furthermore, social structures limit the kinds of actions which it is reasonable to perform (Carr and Kemmis, 1986). We develop a set of ideas about social life which constrains how we behave, and - if we are the dominant group - also constrains how other groups are able to view themselves. As at an individual level, we may be "bound" by the views of important others, so at the group level, people may internalize and act out what is expected of them, but not without considerable stress. It is the transcending of prejudice based on stereotype, and the transcending of bitterness and counter-prejudice which may constitute the greatest obstacles to social change even when repressive formal political structures have been removed.

When western education joined forces with colonialism, it participated not only in a political event, but also a cultural and economic one. When the indigenous peoples of Southern Africa were colonised, they -

a. were conquered in a military sense;
b. lost their political independence;
c. were divorced from an independent economic base;
d. were drawn into new systems of social and economic transformation, BUT ALSO,

e. were drawn into cultural and ideological transformation (Kallaway, 1985).

Schools have been a major agent of ideological transformation. Schools are key instruments of control in creating a new indigenous elite; the elites accept the "so-called" civilization, along with capitalism. Schools also help to change social structures to fit in with western concepts of work and interpersonal relationships. Schools tend to negate indigenous systems of knowledge, so that illiterate people develop an image of incompetence and ignorance. The educated elite either despise their own traditions, or they become ambivalent about their links with their traditional past (Kallaway, ibid). Musgrove wrote in 1951 about his impressions of African attitudes towards education from his work in Uganda:

> The African seeks the strange new knowledge of the West which many fear to offer in case he becomes less African and an imitation European. And because, at the moment, they are being given something less, Africans openly complain that they are receiving an inferior brand of education designed to handicap them in competition with the European and confirm them in a subordinate condition.

It is possible that this statement might in many instances be true in our situation today. It would seem clear that black people do not want to become imitation whites; also, they feel that they are being offered an inferior brand of education. Yet the tension which is described above might necessarily exist insofar as education in its deepest sense is a process of enculturation. To receive a truly "European" education would in some sense be to

become European. And the imported education system which the missionaries brought with them transmitted a set of specific values (partly Christian), at the same time failing to integrate traditional values. The result has been described by Ocaya-Lakidi and Mazrui (1975) as a *techno-cultural gap* between secular skills and sacred values. Once again we have a striking parallel with our own situation (p.285):

> Many schools taught the virtues of obedience instead of the ethos of initiative; they taught fear of God instead of love of the country; they taught the evils of acquisition instead of the strategy of reconciling personal ambition with social obligation. Religious indoctrination was paramount; political education was anathema.

We will come back in the next chapter to a discussion about the relationship between culture and learning, which we would consider perhaps even more intimate than has been suggested in educo-political writing.

Another perspective one can gain on black education is its place in an industrializing situation. Here a Marxist analysis helps to elucidate some of the variables. As Kallaway (op cit) explains, we can understand educational policy with respect to the needs of productive and political groupings of which they form part, but he stresses social and economic groupings also have a part to play. Educational policies cannot be attributed solely to the needs of capital i.e. where big business needs skilled labour; black education is by no means completely determined by the needs of a developing country for skilled technicians and technologists, although it may seem this way to some.

It is only relatively recently that economic considerations have entered the discussion at all in the shaping of black education; previously, it seemed that ideology rather than economics was the prime causal agency. For forty years, the notion of Christian National Education (CNE) had dominated the stage: in specifying how the Christian and national ethics applied to themselves, the Afrikaner nationalists had to fit the other groups into the same kind of system. According to one of the original source documents analysed by Enslin (1984), education for black people was supposed to have the following features:

a. it should be in the mother tongue;
b. it should not be funded at the expense of white education;
c. it should, by implication, not prepare blacks for equal participation in economic and social life;
d. it should preserve the cultural identity of the black community (although it would nonetheless consist in leading 'the native' to acceptance of Christian and National principles), and
e. it must of necessity be organised and administered by whites.

Each of these features deserves comment:

a. The question of the medium of instruction has been a burning issue in black education, and the earlier insistence on the mother tongue is partly responsible for the current difficulties which teachers find themselves in. (A thumbnail

sketch of the history of language policy is presented at the end of this section).

b. There have long been inequities in the funding of black education, a situation which the government inherited in 1948; however, given the spiralling costs of capital investment, as well as the gargantuan leap in the numbers of pupils, these inequities would seem to be increasingly difficult to rectify.

c. The policy of explicitly <u>not</u> preparing black people for full participation in South African national life appears to be scorched into the consciousness of older black educationists, and they lose no public opportunities to remind their younger colleagues of this.

d. The notion of cultural reification is built into this assumption, a notion which is losing currency; however, the policy of Christianizing the people to secure them against other ideologies is self-defeating. If religion is used to secure hegemony, people will tend to equate Christianity with the dominant economic system, and throw the two out together.

e. The organization and administration of the Department of Education and Training is still largely in the hands of white officials. The organization and administration of the other black education departments have undergone a process of Africanization. It is possible that Afrikaans speaking people would find it difficult to whole-heartedly support and implement the policy so clearly endorsed by the Blackcomunity, that is that their children should be educated through the medium of English. The current English medium policy is a clear, symbolic rejection of old-style

Bantu Education. Present indication are that the current opening up of democratic structures within the larger community would positively affect management strategies and style in Black education.

The history of language policy in black education is a clear reflection of the orientation of those groups who have held power of different types. Early colonial education was largely conducted in English by British missionaries, or in the mother tongue by German missionaries. After Union there were different policies in the different provinces, but English was taught from early on. With the advent of Christian National Education, (and on the recommendation of the Eiselen commission) the mission school system was largely dismantled, specifically to dissipate the liberal influence of the missionaries, and so that the mother tongue and nationalistic elements could be implanted under centralist control. The use of the mother tongue as medium of instruction was extended until the end of primary school (at that time an eight year curriculum), and after that English and Afrikaans were both supposed to be used. However, the dual official language policy was rarely enforced, and English was largely used in the secondary school phase. However, after the death of Dr Hennie van Zyl, the Secretary for Bantu Education in 1974, control over the policy was tightened, and the consequent difficulties (such as pupils writing their primary school public examinations in two languages) were not duly taken into consideration. It is generally accepted that the Soweto uprising in 1976 was triggered by the failure of the government to listen to the grievances people had about the impact of the prevailing language policy.

The Education and Training Act (1979) allowed for the possibility of a change of medium to either of the official languages after the fourth year of primary school. In practice now, most of the schools use English, or in isolated cases both English and Afrikaans. The children have to learn Afrikaans (as a subject) from their third year of primary education (Standard One), potentially reducing the children's time for learning English in the junior primary phase, and giving them a formal language learning load which is without precedent in the educational literature which we were able to review. The authorities argue that the labour market, particularly in its lower reaches and in many rural areas, presupposes a knowledge of Afrikaans. There may also be an underlying fear that Afrikaans will become ignored and fall into disuse even as a lingua franca of the shop floor. In the white education departments, children only start to learn a third language (very superficially) from their fifth year of education (Standard Three), and these children are not preparing themselves for a medium change before this time.

Although we have not researched all the reasons for the choice of English, it does seem clear that English was chosen, not because black people identify with English speakers as a reference group: rather, English is a means of rejecting Afrikaans. Justifications about the international status of English seem to be somewhat post hoc. Indeed, the black community has come to perceive what it regards as exclusionist attitudes in the English (academic) community towards those who cannot for whatever reasons use "standard English" (cf Ndebele (1986) and M'phahlele

(1984)).

After the institution of CNE in black education, the role of mother tongue speakers of English was progressively marginalised, and has only been re-instituted on a very limited scale, for example, on short-term projects in Soweto. More than a generation of black pupils have been denied direct access to mother tongue models of English; many black teachers of English have never spoken English to mother tongue speakers. Serving as surrogates for genuine interaction in English have been small English language books based on structuralist principles. The English syllabus was never revised to take into account the specific needs of the children as they approach what has emerged as a traumatic event, the change of learning medium. When the new syllabus is implemented in the early or mid-1990's, it will be nearly two decades after the people expressed their desire to learn through English. Tools to make this a viable possibility have been very slow in making their way into the teachers' and pupils' hands.

There are therefore good historical reasons why we should expect that young black pupils might have difficulties with learning English effectively in the early years of primary school. These historical reasons work together to determine that their teachers do not speak English with confidence or fluency (cf. Johansen, 1985), and that by and large the children use outmoded materials, and have relatively little time to learn English formally. They have almost no contact with English speakers (either children or adults), being physically separated from white communities, and

yet despite all this, their community wants them to learn through the medium of English as soon as possible.

3.3 POSSIBLE DIRECTIONS OF CHANGE

In this section of the report, we are unavoidably entering into an arena of controversy and complexity, and therefore must of necessity speculate about possibilities where the outcomes of negotiation between different interest groups are highly unpredictable.

What many black people would like, and have hitherto been denied, is to be part of one national educational department. In fact this was recommended in the De Lange Report (1983), but was not implemented. The thinking behind the need for a unified educational system is that "separate" inevitably means "unequal". This was recognised judicially in the southern states of the United States as recently as the 1950's, when desegregation was ordered. When there was desegregation, there was inevitably fear of the unknown, eloquently documented in a Life article (Penn Warren, 1962). Education in South Africa is now so politicized that scarcely anyone is unaware of the vast differences in academic standards within the White and Indian departments on the one hand and the Coloured and Black departments on the other hand.

When integration of education departments is mooted by liberal thinking white people, it is the parents among them who will be the first to realise that perhaps their children would be affected

by "a drop in standards", such as has been widely reported by ex-Zimbabweans. From a different perspective Shona and Ndebele parents were probably delighted that their children were going to get free and compulsory education in institutions which had a good name. If whites are to free themselves from a paralysis of fear about what might happen to English speaking children in integrated schools (cf. The Star, 21st November, 1989) we have to change the images we create for ourselves. Instead of thinking about education as a cake from which different people can take different portions (i.e. if you have more than we will have less), we should instead be thinking about making the educational cake bigger (i.e. so we can all have more). And it is in this interim period of indeterminacy of government policy, where certain anomalies are allowed, such as open schools in a segregated society, that we can begin to explore the options of future developments in a systematic way.

The point of departure of analysis in this section is that in the short to medium term the vast majority of rural black children will be attending segregated schools, while a small minority of urban black children will be able to attend, as at present, private ("open") schools, all-black private schools, and perhaps (where community opinion favour them) English-medium state schools. This means that the majority of black children will be attending all black schools. In other words, even within one educational department and after a redistribution of resources, it is likely to take a long time before the average classroom is radically different from the way it is now. If this scenario is correct, then we would be well-advised to consider the needs of the child in

a status quo school, as well as the needs of the child in an "open" school, and an analysis of each would inevitably enrich the analysis of the other. Clearly our major focus in this report would be on children within the black education departments, since they were the focus of our original research.

The pivot of much nationalist political discussion in South Africa is the notion of group identity, and specifically the preservation of language as part of group identity. A great deal of positive energy has been poured into the development of Afrikaans, which has grown into a dynamic language which can address itself to any area of art and technology. The same kind of energy has not been put into the development of the other indigenous languages (despite ethnic policies), and they now stand open to the charge of not being adequate vehicles for instruction and learning.

In contradistinction, liberal thinking does not concern itself in the same way with group identity, focussing as it does on the rights of individuals. There seems to be genuine concern and puzzlement over how to reconcile individual and group rights, especially in an African situation where western style democracies have not lasted long after being instituted. However, part of the answer may be provided by an examination of the newly suggested Bill of Rights, which posits that guaranteeing individual rights is the key to ensuring that groups of individuals can protect their values and interests. Here, if one looks closely at the 31 rights which have been posited, they would seem to guarantee the continued existence of natural groupings of people, who may have their children educated in their mother tongue, or the language of their

choice. How easily this kind of approach to societal equity will appeal to conservative Afrikaners and other conservatives would probably depend on how pragmatic they have become.

In a recent article, de Klerk (1989) analysed the dimensions of a particular form of Afrikaans liberalism which he sees as emerging. He traces its origin to particular strands of Calvinism including autonomy, equality and renewal and change. He claims that the notion of group identity is still important here, with a nationalism which would enter into genuine partnership with other groups. The third root of liberalism he identifies as *pragmatism*, which would be prepared to reduce "Afrikanerness" to a minority manifestation of a general South Africanness. An important aspect which he identifies in Afrikaner liberals is their capacity for organised action, both within and outside parliament. It is this factor which could bring about rapid and visible change, for the English-speakers, marginalised as they have been in national politics, have never been characterised by a propensity towards fundamentally well-organised action.

On a broader party political front, it would be unwise to make any predictions about change from the top down, at a time where there is great uncertainty about structures. There has been a stalemate in the reform process ("one step to the left and one step to the right") over the past five years. However, one can afford to be more concrete at a different, informal or grassroots level, and we refer to this in 4.3.

At an education department level, it seems that we currently have only two alternatives, i.e. Africanised departments in the homelands and national states, and an Afrikaner-dominated DET (specifically, there is no black or English speaker above the rank of deputy director, leaving four ranks above that effectively without Black or English influence). A further indication of Afrikaner control is that there are only two mother tongue English speakers out of a possible eight, holdings posts as regional English (educational) advisers. We reiterate a point which we made in the previous section: that there is something fundamentally contradictory about having to implement a policy which manifestly represents a rejection of one's own language, and hence of one's own group or cultural identity. At a deep level it is not possible for Afrikaners to be mediators of English where the latter implies other "ways of being"; in fact, they are not even attempting to be mediators of English, since most departmental business is conducted through Afrikaans. The fact that English remains confined to the classroom, at least in our experience, is also a function of the contradiction that teachers find themselves in; because of the high status and political weight of English, the teachers are obliged to teach in English. Yet they are aware that - as things stand - children generally do not fully comprehend what is taught to them in English, and so they resort to using the mother tongue, and then coaching the children in English for tests and examinations (Burroughs, 1989).

At the level of more general economic needs, there is a valid concern with analysing the needs of the country and evaluating how far the education system is out of step. In order to develop

the country in a stable way, people must have an equal chance of competing in a free enterprise system. Part of the free enterprise system is necessarily concerned with technical and technological development, and it is imperative that all South Africans are seen to be preparing for this reorientation, and not that black school pupils alone are being steered in this direction. The fact that it is part of our history that academic skills are valued above others is a phenomenon which will not be changed without difficulty: a vision needs to be created about what potential personal prospects lie in the technical/technological sphere, a vision which any South African should be free to respond to.

3.4 OPENING UP THE LANGUAGE POLICY

> ...The language problems will not go away. They are central to curriculum planning and have to be recognised as such.
>
> Hawes, 1979, p. 81.

Educational reforms are so intimately connected with problems of race, nationality, language, and religious ideals that they are the main problem of democratic government, and not matters of narrow professional significance. However, policy per se, as a plan of action and a statement of aims and ideals is usually formulated by policy makers who may be more or less aware of the extent to which their preconceptions and values are literally inscribed in their work. An educational policy which prescribes which languages should be taught as well as when they should be introduced will reveal both present and future conceptions of the

relationship between language, society and individual development. Policy makers, however well-intentioned, are likely to make the most effective decisions if they do not restrict themselves to their particular professional expertise, but consult with and negotiate with the schools and their personnel, as well as the wider community. Creating an acceptable educational policy in a heterogeneous society such as South Africa is in principle a demanding task, quite aside from the exigencies of the actual situation we find ourselves in (Burroughs, 1989b).

As we described in the first section of this chapter, language policy has a long political history in South African education. It does not seem possible to discuss the issue of the medium of instruction in a neutral way which would consider the learning needs of the child as paramount. Before we turn to the possible options which are open for children learning English, there is the important issue of learning both the first and the second official language which should be considered, a policy which has burdened children unduly.

According to the Education and Training Act (1979), one of the official languages may be chosen as the medium of instruction after Std 2. In practice this has meant English almost exclusively (Hartshorne, 1987). Urban black people favour English overwhelmingly as the medium of instruction (Kotze and Southey, 1989). However, Afrikaans is currently firmly entrenched in the junior primary curriculum, with instruction beginning in Std 1, one year after the introduction of English.

Because English was chosen as medium of instruction for political rather than economic or pragmatic reasons we find that many children living in Afrikaner-dominated areas (for example, the northern Transvaal, Orange Free State, and Northern Cape) will be learning English at school, and dropping out into the Afrikaans speaking local labour market at a very early stage. Surely, it may be argued, these children need to learn basic Afrikaans? Taken at face value, this is a valid point.

However, if we look a little deeper at the reasons for dropping out, and we find that children are alienated from the process of schooling at an early age, this in itself is a cause for concern: what is it that causes the loss of meaning at an early stage? There can be little doubt that the burden of formally starting to learn two foreign languages in the second and third years of instruction is part cause of the alienation. This argument about alienation is not introduced lightly. Firstly, we know that there are strong forces which alienate children at an early stage from formal school learning (cf. Donaldson, 1978). Secondly, planning in the Bophuthatswana Education Department went unexpectedly awry after the introduction of the Primary Education Upgrading Project. It was expected that children would drop out in large numbers at the end of Std 4 (the end of their primary phase), but in fact, because the children found school satisfying, they went forward in large numbers to the middle school phase (personal communication, H. Bodenstein).

We have qualitative evidence from children's spontaneous speech and writing that there is marked language interference of for

example, Afrikaans into English. If we want to make school learning as meaningful as possible, then it follows that the child should be prepared for the change of medium as thoroughly as possible, if the whole business is not going to be rendered completely bewildering. (This is not a new idea: in fact it is contained in the Main Report of the De Lange Commission, 1983, p.146.) If indeed we succeed in making children's learning more meaningful, then not only will they stay on until the end of the primary phase (which may be considered the basic minimum for survival skills in a partly developed country), but they will also have remained long enough to start learning Afrikaans for communicative purposes in perhaps Std 4 -with much better material than currently exists (cf. the School-Based Learning Experiences Final Report). In other words, to preserve the viability of Afrikaans, and the increased competence of school leavers in the market place, we have to ensure that children learn English well enough. The fact that the large majority (98%) of black matriculants write Afrikaans as a subject (DET Annual Report, 1987) - when they are not obliged to - should serve as sufficient evidence that the black teachers are pragmatic enough to realise the value of Afrikaans. (It may be that they are also pragmatic enough to realise that Afrikaans is easier to teach than mathematics or physical science.) So there are stronger arguments for moving Afrikaans higher in the curriculum than for retaining it at its current level.

One of the main findings of the Threshold Project has been **that children are inadequately prepared for the sudden transition to learning ten subjects through the medium of English in Standard**

Three. Given that black parents want their children to learn through the medium of English, some way has to be found to make this educationally viable. Consideration has to be given to ways of making the transition less traumatic, and more meaningful for the child. From discussions with teachers, principals and advisers, it seems that they would like more English, sooner. The possible ways in which this could be introduced have been made concrete in two scenarios which are relatively well-favoured amongst urban black people (according to the survey commissioned by Kotze and Southey, op cit). However, it should be remembered that what the people would like in principle, and what would be possible for teachers and children to achieve may well be two separate issues.

The *first* scenario is commonly termed "straight for English", in other words, English as medium of instruction from Grade One. This is a policy which has been favoured in Anglophone Africa, especially as a means of building political unity amidst potential tribal or linguistic divisiveness. The bilingual education literature abounds with explanations for why this policy does not work in developing countries: here are some of the reasons, which apply generally to South Africa as well (Burroughs, 1989b) -

1. The teachers are not well-trained, nor are they competent bilinguals.
2. There is not adequate support from the family in terms of pre-literacy experience, nor other concomitants of a literate environment such as books in the home, public libraries, the practice of reading for pleasure etc.

3. There is little opportunity for the child to practise the language in meaningful peer group contexts, nor indeed for him to have practice speaking to mother tongue target language speakers (adult or child).
4. There is inadequate linguistic development in the mother tongue.

This "straight for the target language" policy is known to have worked under favourable circumstances, such as obtain in Canada, where English speaking children have been taught through the medium of French from the beginning of school (in practice numerous variations exist on time of introduction of the first language (L1) and the second language (L2)). This so-called "immersion" model (Cummins and Swain, 1986) may work because the language and literacy learning environment is supportive. In other words, exactly the opposite of what we have described at 1-4 above obtains.

The "immersion" model is generally considered not to work with minority groups, in European and American contexts, whose background and value systems do not accord with the mainstream cultures (usually represented and embodied by the teacher).

Nevertheless, immersion models, specifically "straight for English" have been applied in an Anglophone African context, for understandable political reasons. In fact, when an evaluation of the immersion situation in Zambia in 1973 revealed that many children in the third grade could not read at all, this was not considered sufficient reason to change the policy. Instead a

decade later, the English Department Curriculum Development Centre came up with a way around this impasse suggesting that the policy be continued with the slight modification that children start to learn to read in their mother tongue or another closely related Zambian language in their first grade, and after prolonged exposure to oral English that they then starting to read English in the second grade.

The reasons which the Zambian Curriculum Development Centre lecturers give for the advisability of initial mother tongue literacy are as follows:

1. The process of learning to read is easier if the materials reflect the language of the children and are therefore meaningful to them. Learning to read a public language such as English means that children express very little of their internal, emotional life and experience. Initial motivation to learn quickly dissipates in the face of frustration.
2. Essential features in learning to read are guessing and predicting from context, and children cannot make use of these structured strategies when they learn to read for the first time in the L2. The children's own linguistic resources are being under-utilized.
3. Word calling rather than reading (and later, rote memorisation) tends to develop as a coping strategy, because the materials are not meaningful.
4. Learning literacy skills in a familiar language strengthens those very skills in the second language (L2), when they come to be transferred to L2 later on.

Hawes (op cit) has observed that a number of Anglophone African countries are moving towards the use of indigenous languages for the initial years of formal education. This he sees as educationally sound, since he holds that oral mastery of the language (English) is important in order to be able to learn to read that language. He sees the skills of reading as being transferable from the mother tongue to English, and sees this transference as being very necessary to obviate what he calls "pseudoliteracy".

It has been the experience of the Molteno Project in Southern Africa for more than a decade that mother tongue literacy is the only sound basis on which to build English skills (Walters, 1988). It is very important to note here that Breakthrough to Literacy was adapted for use in Southern Africa in the face of massive failure of more conventional methods of first language enliteration. Hence we are probably in a position to draw a stronger conclusion than the Zambian study, and that is, the necessity of effective mother tongue enliteration.

We have been able to determine that the proposed modification was not made to the policy in Zambia, for fear of ethnic language dominance (P. Constable, personal communication); none the less **we would consider prior mother tongue literacy learning to be the *sine qua non* of any bilingual language policy.** We would hypothesise that a "straight for English" approach would fail abysmally if this precondition of mother tongue literacy was not met. A further ideal component of this model would be

to have mother tongue or expert speakers of English teaching English as a subject for the first few years. It ought to be noted that the Primary Education Upgrading Project (PEUP) in Bophuthutatswana adopted the Breakthrough to Tswana method on the assumption that children need to develop a healthy self-image as a basis for learning, and they can do this very early on by expressing meanings which are important to them, in their own language (G.C. Bodenstein, personal communication).

The *second* emerging scenario is rather less radical than "straight for English", but nonetheless complex. This we may term the "gradual transition" model: in other words, there is not one moment of total transfer to English, but English is phased in with specific subjects over a period of years. The question immediately arises as to whether this transition should start earlier or later, i.e. a gradual transition completed by Std 3, or a gradual transition starting later i.e. after Std 3. Informal evidence as well as survey data (Kotze and Southey, ibid), indicates that an early transition would be acceptable to the urban black community, and a later transition not.

There are said to be two specific benefits in this model. The first is that children are at the beginning able to learn a great deal through their mother tongue, while at the same time, starting the arduous task of learning through English. The mother tongue curriculum - e.g. Setswana as a subject - could and should still support the broader curriculum in the specific teaching of themes and concepts after the medium transfer to English has been completed (cf. the Reasoning Skills and English Language Skills

Evaluation Final Reports for a detailed discussion of this point). The second benefit here is that there is no great crisis of confidence in the child's life because of a total transfer to English in one year (the current position), specifically Std 3, when the curriculum simultaneously broadens out into an array of "content" subjects. There is a radical discontinuity in the curriculum, specifically insofar as Environmental Studies (occupying the child with rather vague topics for approximately three periods a week) branches out into History, Geography and General Science, which are highly specified and manifest themselves in the form of substantial English medium textbooks, occupying approximately eight periods a week. In the new core curriculum, currently under discussion, the content subjects are due to start in Standard Two (fourth grade), a consequence of the pressure of content in the higher standards, forcing content knowledge requirements downwards. Thus the discontinuity could simply manifest itself a year earlier unless there is careful curriculum development in Environmental Studies.

The broad outline of a gradual transition policy (which according to Hawes 1979 is fairly widely in use in Anglophone Africa) can be schematized as follows in Figure 3.1 below. There is no substantial research evidence of success with this policy, but the weight of the current research would indicate that this policy would be more effective than the present one: we would consider investigating the viability of the transition policy to be a matter of considerable urgency.

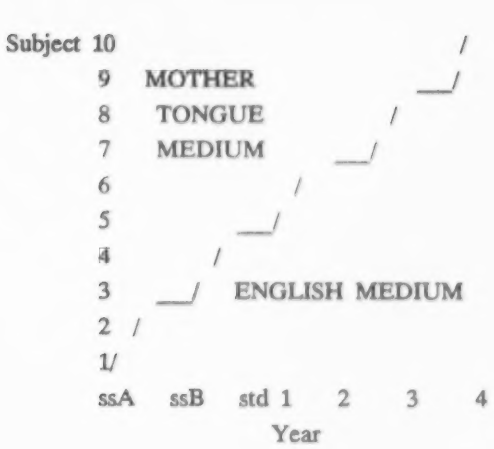

Fig. 3.1 The gradual transition from mother tongue to English

Given the current major constraint of the junior primary teachers' relative lack of facility with English, the second scenario (gradual transition) would be less risky to the children and less traumatic to the teachers than the first scenario (straight for English). However, the first scenario could perhaps be applied on merit; for example, an urban school, where there is a highly motivated principal running the school efficiently, and where the teachers are relatively fluent in English could apply to join the "straight for English" scheme, with the proviso that, if possible, two or three schools within reasonable proximity to each other should join simultaneously, so that they can give each other mutual support.

It should be noted here that the existence of "alternatives" might be perceived as discriminatory by local communities, and a single

option might be the only one that would be implemented in practice.

It would not do at this stage to suggest which subjects would be considered in which order; that would simply serve to draw a red herring across the path of the discussion. This decision would have to be based on the familiarity of subject content to the child, and the inherent difficulty of the subject matter. Another consideration would be on the general ease with which the mother tongue can deal with technical terminology in the subject.

One major impact which such policy changes would have on the language curriculum is that it would give point and direction to any English syllabus. For example, instead of generally preparing for across the curriculum concepts (as we shall be discussing at 5.2), the syllabus would attempt to support those subjects transferred that same year to English, as well as building foundations for the next subject(s) to be transferred the following year. The English syllabus in this case would have to look rather different from the one which is currently being developed, which assumes the status quo of the sudden transition to Std 3. If the current revision of the junior primary curriculum (in the DET) is not allowed to make any alteration in the language policy, then it is likely that the status quo will be maintained for another decade, because there is a knock-on effect to the higher primary planning which is to follow.

At this point in the discussion, it would be appropriate to say that these two scenarios would lend themselves to research, but

that the research involved here would be very costly in terms of the rather different materials development which would be involved for relatively small numbers of children, and the different models of teacher pre- and in-service education which would have to be developed.

To summarize this section, we have seen that:

* language policy planning is not separable from current political thinking;

* there are strategic reasons for delaying the introduction of Afrikaans until after the completion of the junior primary phase;

* the "straight for English" scenario is not likely to meet with success except when it is introduced into a sophisticated school;

* the "gradual transition" scenario is widely used in Anglophone Africa, and conditions would seem appropriate for its introduction in South Africa;

* a great deal of importance should be attached to children's becoming effectively literate in their mother tongue before introducing English literacy, and

* issues of language policy are vitally important to curriculum planning.

Here we leave our discussion on language policy: matters concerning English teaching and teaching via English will be taken up again at 5.2. A self-contained section dealing with language policy scenarios may be found at 5.8.

CHAPTER FOUR

SOCIOCULTURAL ASPECTS

It was at the heart of the Threshold Project enterprise to examine the relationship between the children's and teachers' accepted modes of doing things on the one hand, and what they are able to achieve on the other. So, for example, in the Schools-based Learning Experiences Final Report, there is an extended discussion on the introduction of the notion of child-centredness in the Primary Education Upgrading Project in Bophuthatswana and the local adaptations which have evolved over the past decade. The discussion in this chapter comes close to the heart of our project enterprise: understanding the nature of a major innovation gives us a clearer understanding of the nature of language learning materials and methods that might best suit local learning conditions, for example.

In the first section, the relationship between the notions of culture and curriculum are critically examined. Particular attention is paid to the notion of cultural relativism which, though in vogue in progressive education may in our situation inadvertently lead to the notion of educational neo-apartheid. (The notion of what might constitute authentic multicultural education is taken up in the final section.)

In the second section of the chapter, Vygotskian socio-psychological theory is introduced with its integration of the notions of

culture and cognition. Here we are able to give an account of the particular cognitive effects of schooling, and tie this up with recent thinking in cognitive developmental theory. The major part of the section is devoted to an exposition of the parallels between research carried out at the University of Natal with pre-school children trying to solve a wooden puzzle, and the Threshold Project observations of older children in a classroom-learning situation.

In the third section of the chapter, we outline the kinds of transactions and exchanges between individuals or social organisations that could facilitate change. In the fourth section, a theoretical model for the study of the child and the development of a curriculum is outlined. We also review a comprehensive study carried out on the "open" roman catholic schools, a study which casts some light on the particular issues that will have to be more generally faced as more of the country's schools become open. The development of a multicultural curriculum is seen to be a priority, a curriculum that is not deemed to be "scientific" and therefore apparently value-free.

Finally we present a theoretical model for the study of the developing child and the curriculum.

4.1 CULTURE AND THE CURRICULUM

One of the central thrusts of the Threshold Project enterprise was to come to some understanding of why the children we were

working with do not in general do their problem-solving tasks as effectively as children who come from a different socio-historical background. In doing so, we have deliberately steered away from using "culture" as an explanatory concept. In other words, we did not consider it useful simply to say that the teachers and children are not able to tackle their considerable learning tasks (specifically, learning for a change in medium) because they come from a non-Western culture. Stating the situation in this way does not in itself contain the seeds of any explanation of possible change. A more useful approach is to try to understand the implicit assumptions that teachers and children bring to the situation which enhance or inhibit effective performance: an explanation of the implicit assumptions and how they may be altered is seen to be a more creative approach to the situation.

In left wing thinking in Western education cultural relativism is highly favoured: here culture and cognition are separated into a causal relationship in a well-meaning attempt to ensure that ethnic minority children have due respect paid to their culture in the classroom. At this point in South African educational history, we cannot afford to take this position, whatever its theoretical tenability, since the notion of cultural relativism in education can land us in the position of neo-apartheid thinking, where we run the risk of dressing up the bantu education dolly in new clothes. In this section then, we present a brief outline of the history of the concept of cultural relativism, especially as its reflects on education, in order to make clear what we would consider the proper place of culture within the curriculum is.

Musgrove (1982) has very clearly laid out the recent history of the relationship between culture, relativism and the curriculum. Starting from an early very simple definitional notion of culture as the customs of a group of people, the notion of culture has been massively reified - it has been treated as a thing, separate from individuals but with power, influences and even rights over them. On the reified reading, culture is outside people and has causal power over them, for example making them do well or badly at school, or making them become delinquents. Musgrove sees Durkheim (1938) as having been extremely influential in his account of culture as 'social facts', external to the individual, and endowed with coercive power that acts on an individual independent even of his individual will.

Musgrove says (p. 115) that "there is probably no more popular concept than 'culture' in twentieth century social science. It has been all pervasive and has seemed to explain everything". He refers to works on the sociology of education, juvenile delinquency, and even Marxist 'class cultures' (Mungham and Pearson, 1976; Hall and Jefferson, 1976). A hundred years ago, it was first allowed that other, non-Western people actually had a culture, although these cultures were confidently ranked in order (Tyler, 1871). A further developmental step was necessary to arrive at the neutral, non-normative idea of culture which prevails today.

Musgrove sees the conceptual refinements of recent years as including a focus on the subjective aspects of culture, with anthropologists trying to get "inside" people's cultures, describing the members' constructed or negotiated meanings. Its symbolic

nature - what it says - is given emphasis (Schneider, 1968), while its utility - what it does and achieves - has been played down.

The concept of education as the maintainer and propagator of culture was for example developed in England in the 30s to the 50s by Clark (1936, 1948), who saw the first business of education as being to induce conformity in terms of the culture in which the child is to grow up. The concept of culture gained autonomy and rights: however, in doing so in the context of "multicultural" education it had the unfortunate effect of sustaining the concept of static culture and constant group membership (McLean, 1980). Contradictory to the notion of relativism is the possibility of change and progress: this is a consequence of seeing culture as a product and not as a process.

Part of the popular notion of relativism is the preclusion of the possibility of evaluating cultures relative to each other: to do this one needs a set of values which are of a higher order, values which themselves would need validating. However, Musgrove points out that cultures themselves are constantly occupied with what in relativist theory is impossible, that is, in judging, valuing and perhaps even repudiating their former selves. (An apposite case study in our context would be the process of self-evaluation which the Afrikaans community has been going through, a process which is leading different sections off in different directions.)

Possibly the most powerful form of relativism is that in the realm of epistemology - where the question arises as to how we can evaluate ways of thinking and forms of belief. Musgrove sees

Kuhn (1962) and Winch (1958) as being the arch proponents here. Yet Kuhn (1970) himself admitted that it is possible to discern progress in later paradigms being better than earlier ones, but he insisted that it was difficult for one paradigm to understand another. Popper (1970) on the other hand thought that people brought up in different frameworks should communicate, because in this "culture clash" intellectual discussion is truly stimulated. This latter view points the way to a genuine dialectic of discussion amongst people of different (everyday) cultures.

To be fair, Musgrove does admit that there is also a tradition of anti-relativism. On the epistemological level, there is the criterion of rationality - the law of non-contradiction (Lukes, 1967). In the "real world" Gellner (1968) accords supremacy to the paradigm which he refers to as "the scientific-industrial form of life". The reason why he accords it supremacy is that its rapid global diffusion is the "main event of our time". Gellner doubts whether the problem of relativism really has a formal solution; but the technical and cognitive effectiveness of scientific-industrial society makes its basic characteristics not really optional - its basic efficiency in explaining cause and effect is at the heart of its efficacy. (This is not, of course, to accord it moral superiority.) Musgrove notes whimsically that the scientific industrial form of life is the only culture that castigates itself for being ethnocentric and indulges in cultural relativism.

Musgrove would argue for what he calls the dialectic of integration and particularism in education (p.128):

> The business of the school is not to transmit any group's culture intact; but if it is to engage the minds and imaginations of its pupils it will at least start from where they are. And 'where they are' is where much of what was taken for granted in their lives is now at least implicitly challenged and made problematical.

Starting from where the pupils are is not a self-evident enterprise, and requires ingenuity to discover the underlying motifs of their lives. In the words of Vygotsky (for extensive discussion, see 4.2 below), we will have to start in the cultural "Zone of Proximal Development". As far as Chazan (1978) is concerned, the traditional culture should survive only where some contemporary problem refers to it and provides some "motivating tension that gives it point". Musgrove concurs with this point from his African experience. While one might be sympathetic to traditions and identity, Chazan argues that "a blind survivalist ethnicity is a doubtful commodity for second and third generation ethnics in open pluralistic societies". The key question in our situation is how long our own society will take to become adequately open, and how it will do so.

The situation in British education, which is Musgrove's primary focus, is that the "other cultures" i.e. the West Indian, the Sikhs and the Muslims, have often been opposed to the application of the culture concept to the school curriculum (cf. for example, Stone, 1981). They have refused to be confirmed by schooling

in their traditional identities. "Their culture has relevance in the curriculum only at its points of maximum tension with modernity", says Musgrove. He goes on to say (p.138):

> The school curriculum must be transformational. There can be no tincture of compromise over a core curriculum of Western science, Western mathematics, Western logic, and a Western language. But there is an extensive interface of culture contact and conflict which offers focal issues of curriculum development.

Musgrove, himself a teacher of history to African students, detailed a number of points of cultural conflict on which a 'transformational' history syllabus must stand: the work ethic, concepts of liberty, wealth and equality, and notions of causality in human affairs. These apparently abstract issues arise from a detailed study of a history syllabus which presented an alien world to the African student.

Given that cultures as processes are always changing, there will be new points of tension to map, and there will always be lively issues for the curriculum[2].

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[2] Perhaps this may seem remote and abstract presented in this form: but Musgrove (1955) gives a very concrete account from his early experience - "They want the full details, they wish to see how it really works, they want to understand fully the complexity of events and forces which bear upon the particular moment to produce the particular event. A detailed study of say, the anti-slavery movement would give them insight into the machinery of history. They would gain an understanding of causality at variance with their traditional philosophy of causality, witchcraft. A new culture tension would thus arise, but from these tensions, understood by studying the forces which created them, a synthesis will come and a new African civilization arise".

The point of this section - and which underlies the report - is simply this: different cultures are worthy of respect and support, but everyone must acquire a mastery of the dominant culture. Personal dignity, social efficiency and *justice* require nothing less.

4.2 WAYS OF GOING ABOUT THINGS

The dominant influence in western cognitive developmental psychology during the 1960s and 1970s was the genetic epistemology of Piaget. Piaget was particularly interested in how children construct central scientific notions such as of the object, space, time, causality etc. For Piaget, the origins of knowledge lie in the interaction of the child with his environment. In Craig's (1985) terms, Piaget is interested in giving an account of the *intrinsic generative mechanisms* of development.

By the late 1970's however, the work of Vygotsky, a Russian psychologist was becoming salient. Until recently only two of his major works (1962, 1978) were available in English, and the rest we have had to get through secondary sources. Vygotskian theory would seem to stand in direct contradistinction to that of Piaget, specifically because he sees the origins of development in terms of *extrinsic generative mechanisms*, i.e. social mediation. Yet it is very important to notice that the one level of explanation does not preclude the other, that in theory one can co-ordinate the approaches, as in practice these generative mechanisms can interact with each other. It is the main purpose of this section

to give a brief description of Vygotskian theory, and report significant research which has been done within this theoretical approach within South Africa.

The Vygotskian[3] analysis addresses the social actor, the social processes underlying cognitive development, the material conditions of existence, and the social communication between people. Mediation as a mechanism of individual development is rooted in society and culture (Vygotsky, 1978, p.30):

> From the very first day of the child's development his activities acquire a meaning of their own in a system of social behaviour, and being directed towards a definite purpose, are refracted through the prism of the child's development. The path from object to child and from child to object passes through another person. This complex human structure is the product of a developmental process deeply rooted in the links between the individual and social history.

So the mediator has a critical role in determining the course of development. While on the one hand the child brings to the situation his developing potential and the cognitive developmental power to resolve unfamiliarity, on the other, interpsychological functioning with the mediator allows for learning through interaction. The mediator or teacher will naturally use what she knows about the world and the task at hand. It is here that we find the impetus behind socialising children into familiar social forms

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[3] Once again, as I have done in two previous reports, I have to give full acknowledgement to the writing of A.P. Craig (1985, 1986), of the University of Natal, which contains the finest exegesis of Vygotskian thought I have been able to find.

or tasks. In this paradigm the origin of self-regulatory activities, which include higher order reasoning skills, lies in culturally prescribed patterns of control. The mediator exercises these patterns at first, and later, the child internalises these controls.

Social actors are mostly unaware of what it is which underlies everyday tasks. They do not realise that the ability to move freely, to communicate needs, to be self-sufficient, to uphold authority relations, to preserve and use social knowledge, etc. all carry with them learning opportunities for mastering the skills required in a society. With change, traditional tasks (such as animal husbandry, weaving, etc.) may be displaced. The real loss here, Craig (1985) says, is not the tasks themselves, but rather the *opportunities for learning* which these tasks embody. In a time of rapid social change, new goals may ensure that conventional patterns of behaviour become devalued, inappropriate or even impossible. Here the culture has to make a paradigm shift; and in the grey land between paradigms, there may be a loss of cognitive efficacy. In other words, old social forms do not necessarily achieve new social goals. We would assume that while making the paradigm shift, the social actors might necessarily experience being disempowered. This loss of positive affect could well then have a negative effect on subsequent learning experiences. For children, this would not only be loss, but emptiness, being born into a kind of limbo.

As Vygotsky points out, outward appearances conceal the internal nature of processes which silently underpin social activity. In formal western schooling, much of what goes on might simply

seem to be "the way things are done" (although the way things are done lead to other, unanticipated cognitive effects, beneficial or not). For the non-Western mother and teacher, the child's entry into social forms underlying Western schooling is complicated by the fact that meanings are obscured and reasons unintelligible. For us, they are also in a real sense obscured and unintelligible - but we own them and live in them and so they make sense. What can happen is that social forms which the teacher may find more consonant may replace those forms which she finds ready-made but opaque. In other words, the black children may do the same thing as white children for completely different reasons and perhaps, with rather different consequences. For example, neat handwriting is something which is valued in both circumstances, but black children are not taught to see the place of this in the context of the general care of books as valued objects.

In Vygotsky's general approach, he claims that psychological processes must be studied in transition; he also claims that we can't account for all phases of development by a single set of explanatory principles. For example, the primacy of the biological is replaced by the social in early childhood. Later, schooling as a socio-cultural (institutional) force is invoked - in other words, school is seen has having a profound effect on cognitive development.

A third general claim is that there are qualitative shifts in development. "Higher" mental functions of memory, attention, perception and thinking evolve out of parallel "elementary"

functions. Two of the most important distinguishing criteria of the higher order mental functions are firstly, the shift of the control of behaviour from the environment to the individual, and secondly, the emergence of the conscious awareness of mental processes. This conscious awareness is a major achievement of middle childhood development.

Wertsch (1985) in his exegesis of Vygotsky's work, has further distinguished between two levels of higher mental functioning, i.e. "advanced" and "rudimentary". In advanced higher mental functions there is a *progressive decontextualisation of mediational means* (DMM). This progressive decontextualisation is an explanatory principle of socio-cultural transition. In other words, cultural change can productively be accounted for in terms of learning this progressive decontextualisation, which is embodied most clearly in the processes of becoming fully literate. Hence, Vygotsky was concerned with highlighting the socio-historical impact of school. Preschool and school instruction are essentially different: the tasks change and become less contextualised. Schooling facilitates the DMM process. The extent to which the school system we are looking at actually facilitates DMM's is probably a critical question in our venture; however, we put the notion in simpler terms.

Luria (1976), one of Vygotsky's students and colleagues, conducted research in Soviet Central Russia (Uzbekhistan) with literate and non-literate subjects, to examine their cognitive differences. Luria and Vygotsky compared the performance of nonliterate subjects on a series of reasoning tasks with that of

subjects who had recently acquired literacy skills. The tasks for example required the subjects to categorize familiar objects or deduce the conclusion which follows from the premisses of a syllogism. The literate subjects categorized objects, accepted premisses, and derived conclusions on the basis of linguistic means. The nonliterate subjects invoked practical experience in their answers. The second type of response usually characterizes the responses both of many non-literate peoples as well as children being brought up in industrialized societies (Gellatley, 1987).

There are a number of points to be made about this research since it has been followed up in many ways in the last three decades. Firstly, the strict dichotomy of literate vs non-literate is not a valid one; for example, oral cultures themselves lie on a continuum (Gellatley, ibid) and there are various kinds of literacy. The effects of literacy itself may be confounded with the differential and marked effects of formal schooling. For example, in schooling one learns complex role relationships, general cognitive "technologies", and ways of approaching problems (Gellatley, ibid). One might also say that people are learning about how to arrange information in different ways, and this sets up some kind of cognitive flexibility.

In Lurian terms, DMM's refers to *well-structured explanations*, with explicit information and justifications of the principles involved to carry out a task. An example from our research (see the Reasoning Skills Final Report) would be that the child carries out a story sum task, and then is able to explain how she chose the

correct arithmetical operations and carried them out. The child would also be able to explain why she didn't use the other operations.

We have said that schooling inherently concerns itself (in the finest Western tradition perhaps) with the management of mediational means. Cole and Scribner (1981) have argued that these truly decontextualised mediational means arise from a *practice* effect of literacy and that the people most likely to manifest these DMM's are those who are currently or continuously involved with the practice of literacy (for example, teachers, researchers, etc.).

The term "progressive decontextualisation of mediational means" is extraordinarily burdensome, and as one would expect, potentially rich in connotations and explanatory power. Perhaps it is appropriate here to introduce a more familiar notion from the literature, namely, *metacognition*. At the simplest level metacognition involves an awareness of one's own thinking strategies and the ability to verbalize about tasks.

Extrapolating from Flavell's (1976, 1979, 1981) use of the term, we can distinguish between metacognitive knowledge and metacognitive experience, and between metacognitive and cognitive strategies. Metacognitive knowledge is relatively stable information about cognition, knowledge about ourselves, the tasks we face, and the strategies we employ. Metacognitive knowledge serves as a base for metacognitive experience, which might occur when cognition fails; in turn, one may use metacognitive strategies to

remedy failure.

The term metacognition is favoured by developmental psychologists, while information processing specialists prefer to refer to *executive control*, which roughly speaking, approximates to the interrelation between metacognitive experiences and strategy use. Executive control is seen to be at the heart of cognitive activity, since the control processes make for efficient use of the limited-capacity processing system. Brown (1977, p.4) stresses that part of development is a gradual increase in the control of cognitive processing: "in the domain of deliberate learning and problem solving situations, conscious executive control of the routines available to the system is the essence of intelligent activity".

It seems that forms of metacognition may be culturally mediated. Research conducted at the National Institute for Personnel Research has found cross cultural differences in what Verster (1986, p.15) refers to as executive processes:

> Although it is possible that certain executive processes may be innate (Carroll, 1976), in most cases they are likely to arise through learning, whether formal or informal, and to become entrenched through *culturally mediated habits in thinking*. Executive processes then, which are essentially goal-directed strategies of approach in problem solving and thinking, are a major locus for cultural influences on cognitive development and performance. At least some, if not most, executive processes may be culturally relative and hence not represented in all populations.

In a Western context, the development of metacognition may be regarded as a major achievement of middle childhood; hence we should be alerted to its potential significance to the child entering the higher primary school. While we did find cross-cultural differences on four tasks involving explanations and justifications (cf. 2.3.2 and 2.6 of the Reasoning Skills Final Report), we did not draw strong conclusions on the basis of our findings. This was partly because the tasks we set the children approximated typical classroom tasks to varying degrees. However, a search of the literature indicates that **executive processes are tightly bound up with the development of higher-order reading and writing skills.**

For example, Markman (1981) has noted the effect of poor reading skills on comprehension monitoring. Poor readers will struggle to extract meaning, getting a choppy segmented version of the text, quite apart from not being able to check their comprehension. The teacher, in trying to get children to monitor their reading, can encourage children to actively comprehend. (It is not easy to teach them strategies per se.) Then, for example, the teacher could practise drawing inferences and formulating expectations. Markman (1985) says that reading comprehension will be limited if:

a. the reader is rigidly bound to the superficial form of the material;
b. he is unable to paraphrase it, and
c. he is unable to move beyond it.

If indeed these conditions generally obtain, then they constitute the most daunting of constraints for genuine learning through reading in the second language, as black children have to do. However, we still need hard research evidence on what English-speaking children can do in their first language by the age of ten years in terms of these conditions, before we start creating unduly high expectations of second language learners, i.e. black primary school children.

In the present research, we did not evaluate the *process* of teaching reading skills in either the first or second language, but we did evaluate the products of these enterprises. We report on our observations in the next chapter, but in general we could say that reading skills are very poorly developed in both languages. Part of the reason for this may lie in the poor reading skills of the teachers themselves, but the materials also make a contribution insofar as they do not facilitate the development of drawing inferences and formulating expectations.

The second area of obvious application of the concept of executive processes is in the development of expository writing skills. Here we have in mind specifically that children have to draw information from different knowledge stores in their head (rather than simply "telling" their knowledge in the order which it was learned). For example, if a child were to write a project about money, she would have to find out about its production, currencies, and denominations and order the information in a way which people would understand. Examples of self-regulatory mechanisms which the child would, in time, need include check-

ing, planning, monitoring, revising and evaluating. Each of these processes are separately amenable to development and improvement. However, the child may not be able, for example, to use the function because of an information processing overload. Scardamalia and Bereiter (1985) (cf. Reasoning Skills Final Report section 3.4.3 for full discussion) designed an external regulatory mechanism or tool - specifically cards with prompt questions such as "Will people understand what I mean by this?" - which helped the children evaluate their writing, which children found useful. As one Grade 4 child said "They had all the things down on paper and you just look at it and you can think. The other way you have to get it out of your head". The authors say that many children express this Vygotskian sentiment, seemingly aware of the effects of limited working memory capacity.

Enhancing self-regulatory mechanisms can be seen not only as a way of contributing to immediate performance, but also to further development of the cognitive system. The way in which Scardamalia and Bereiter induced this development was by changing the rules of the system indirectly by change-inducing agents. In other words, one doesn't teach new rules of task performance but the children actually acquire them. The general significance of this work will be spelt out in the next section.

In our research we found no examples of self-initiated expository writing in English as a second language; in fact the only expository writing was copied from teacher notes on the blackboard. (However, we did find examples among children whose mother tongue is English.) This type of writing is clearly very complex,

and would require amongst other things that the child has access to knowledge or learning resources outside of conventional textbooks, and secondly that the teacher herself can manage such writing. Looking at the notes which teachers produce for their pupils leads to some doubt on this issue. It seems that teacher upgrading and pupil development would go hand in hand in such a domain.

We have looked at the role which executive processes have to play in the development of higher order reading and writing processes. Although it is sometimes difficult to tell whether something is not being taught because of the difficulties of learning through the second language, it was our distinct impression that instances of such teaching would not easily be found in the mother tongue either. We tried to analyse what conception teachers had about the nature of learning, and found again and again that teachers placed great value on rote memorisation, especially in the higher standards. Were we to suppose that this was a simple instance of the transmission model of learning? If so, we discovered that it had additional rhythmic aspects, with the actions of the teachers and children closely co-ordinated, or more strongly, synchronised.

Our analyses of the indigenous origins of this *teaching style* have been substantially reinforced by work done by Kok (1986) on problem-solving dyads (pairs) comprising pre-school Zulu children and their mothers or teachers. (The latter distinction (between teacher and mother) didn't prove to be significant in this analysis.) The children had to construct a copy of a jigsaw-like model.

These dyads did not in Western terms function very efficiently as problem solvers. However, in their own terms they were engaging in the task, and were following what might be called *implicit rules for being*. What Kok did was to reconstruct what the mothers and teachers intended in the execution of tasks, taking into account their rules for being; she then constructed what she called *six indigenous mediational "operators"* or non-technically, strategies.

The use we made of this analysis in our project was to see whether her descriptions were consonant with what we observed in a later, slightly more complex situation. Hence, in the description which follows, we shall present Kok's description (a) followed by our own observations (b) of the following six mediational strategies:

(i) Maintaining mutually exclusive role division/exercise.
(ii) Emphasising the manifest task demands
(iii) Embedding instruction in a "know-how" paradigm.
(iv) Embedding instruction in a "know-it" paradigm.
(v) Providing an accepting environment for guided discovery.
(vi) Construing the tasks in terms of social motives and goals.

(i) *Maintaining mutually exclusive role division/exercise.*

(a) It seems that the focus of the task is to teach the child to solve problems with people rather than independently. The role of teacher and learner are mutually exclusive and complementary:

the teacher is the "one who knows", while the learner is the "one who does". The goal of regulation is to teach the child to subordinate her individual intentions and become responsive to outer-directed instruction. Instruction given by the teacher is formulated around "guides for action" in order to allow the learner to act. For her part, the learner must respect the teacher as the one who is the appropriate source of relevant action.

(b) In our later school context we found the role division between the teacher and learner still very marked. By and large (except in the early substandards) children are not expected to solve problems independently, and the teacher is strongly regarded as the "one who knows". In fact, so strongly is this belief held, that teachers show resistance to their pupils seeing them using books as source materials. Pupils and teachers would never "consult" books together, as this would undermine the teacher's authority.

(ii) *Emphasising the manifest task demands*.

(a) Here the teacher assumes that the outward appearance of the task (what it appears to require) is the appropriate focus for the regulation of the child's actions towards successful problem solving. Notice that when this (second) strategy is used in conjunction with the first one mentioned above, the learner is not provided with sufficient information to finish a part of the task (which was to copy a toy jigsaw) completely. The teacher does not provide the learner with strategies or provide instructions which would engender skills such as making comparisons.

(b) From our later perspective it seems to continue to be the case that the focus is on the outward appearance of the task. Here we would refer to the possibility that sometimes the forms of learning and knowledge construction would be opaque to teachers, and therefore they themselves can only mimic surface characteristics of the task. The teacher may not be used to bringing to the surface deeper aspects of task performance if it requires a mode of consciousness which she is not adept with. Our own work with children on individual tasks revealed that Std 3 children were characteristically unable to get below the surface structures of the tasks which they were given; it would seem that their teachers would never help them to do this. While teachers may not think it appropriate for children to do certain "advanced" things, the obverse of this is also true - that they do not believe that the children could actually do these things. So, for example, teachers would be astonished by the children's ability to read ahead in their English readers, and so be acquainted with what the teacher would assume is genuinely new information that she is imparting.

(iii) *Embedding instruction in a know-how (practical) paradigm.*

(a) This mediational strategy emphasises learning through doing and instruction based on creating opportunities for action. The teacher must provide instructions which create opportunities for the child to discover what to do, without imparting knowledge which falls within the realm of her exclusive role as the one who knows. The teacher creates opportunities for trial-and-error behaviour on the part of the child (trying different pieces at random), and is not specifically concerned with means-end

efficiency. When language instructions fail to get the appropriate action response, the teacher resorts to demonstration and example (taking the piece of puzzle away from the child and putting it in the correct place), while observation and imitation are the parallel learning modes emphasised by the child.

(b) In our later context we found that children working in groups would often wait for the teacher to come and show them what to do. In a class-teaching exercise, children may get little or no feedback on the efficacy of their attempts to answer questions, and the class may get progressively more mystified (over a short period of time, on a specific point). As the nature of the information to be imparted becomes progressively more disembedded from the actual context, the teacher is forced back more and more on her linguistic resources, which may be woefully inadequate to the demands of explaining complex concepts in English.

It is this strategy which directly conflicts with children's being able to become autonomous problem solvers, and therefore would have to be addressed most closely in any model of constructive change. For example, children are not expected to be able to participate in the gathering of appropriate information; they do not have the essential features of the task conveyed to them, and cannot pursue the inherent structure of the task. And if children are going to be part of specifying the means and goals of the task, they will have to understand the structure of the task. If they do not have the problem made explicit for them, then they will find it difficult to know which part of the task to pay

specific detailed attention to. Invariant aspects and causal relations within a task or problem will become more difficult to discern. If children do not get significant feedback of the consequences of their actions, then at a fundamental level, they will fail to learn.

(iv) *Embedding instruction in a know-it (experiential) paradigm.*
(a) The teacher emphasises getting the children to act in synchrony with her, in response to minimal verbal and nonverbal cues, by encouraging their development of intuition and sensitivity to her as yet unexpressed intentions and plans; the child has to learn to respond to minimal verbal cues and attend to nonverbal cues such as the teacher's gestures and visual focus on part of the task. Immediate responses are more valued than exactly correct ones.

(b) In our later context, it seems to be very important to the teacher that the children should appear to be paying attention (even if they don't understand what is being said); an indicator of this attention would be the repetition of words or phrases which the teacher has just uttered. (In fact, children inculcated into this method, will do just the same to innocent visitors such as researchers.) Another way in which the teacher gets the children to indicate their attention is to have to concur with teacher propositions followed by "not so?" In this way the teacher can generate synchrony between what she and the class (treated as a unit) are doing. The teacher's intention in the content subject classroom is that children's responses correspond closely with what the teacher said or intended. Evidence of independent

thought - difficult for them to express in English - would be sufficient to startle the teacher.

(v) *Providing an accepting environment for guided discovery.*

(a) In this strategy, the teacher tries to reinforce the child's engagement in the task, on the assumption that creating an accepting environment is appropriate and conducive to learning. A warm, tolerant and accepting learning environment is created, and the teacher frequently reinforces the child's reactions to instructions regardless of whether the reaction is correct or appropriate. As the situation is construed in co-operative interdependence, the learning situation lacks the more demanding and task-focussed atmosphere desirable in a situation where the primary goal is precise and independent problem solving.

(b) Here we have a strategy which we readily identified in our ethnographic research in the Bophuthatswana Primary Education Upgrading Project (PEUP) substandard-grades classrooms, but less readily in the DET classrooms. It seems that the child-centred approach so explicitly adopted by the PEUP has been able to capitalise on a tendency which would very naturally occur in dyad (paired teaching-learning) situations, namely, providing an accepting environment. However, the "traditional" teacher (still found even in bridging period DET classes) seems to be a great deal more authoritarian and punitive. By the start of Std 3, the teachers in both systems are almost universally a great deal less accepting and more punitive; the teaching and learning demands are vastly increased by this time, notwithstanding the change of

medium bringing its own stress. We would surmise, that at least in the lower primary, the capacity for the social aspects of child-centred education is clearly marked, while the absence of a demanding task-focussedness is equally marked. When the teaching style becomes more teacher-centred in the senior primary phase, task-focussedness could be seen to be more marked, but as we have pointed out, attention is paid to the form of responses, rather than to underlying understanding. At a theoretical level, it should be pointed out that tolerance towards the child as a learner, and a capacity to generate focus on specific aspects of tasks which need attention are not necessarily mutually exclusive qualities; it is the other mediational strategies (1,2 and 4) which prevent these two from co-occurring.

(vi) *Construing the task in terms of social motives and goals*.
(a) This mediational strategy constitutes the superordinate aspect of instruction, being the successful outcome of the application of the above-mentioned strategies. It refers to the primary goal of all teaching in this situation: that of learning to do tasks with people and subordinating individual intentions and desires to social motives and goals.

On this view, the first prerequisite for learning to proceed is that the child learns to respect the teacher: the teacher is the appropriate source of information who will provide appropriate guidance for action. Secondly, therefore, the child must be taught to subordinate his independent plans or intentions for actions to those of the teacher and to simultaneously learn to respond appropriately to the teacher's instructions.

This strategy is the parallel of Craig's higher-order strategy of co-ordination and integration. However, in this instance, the goal would be social rather than cognitive adaptation. It may be that to some extent, given the way these goals are here construed, they are mutually exclusively and perhaps antagonistic. From the work done by Craig and Kok, it would seem that the primacy of the social over the individual in pair-based learning leads to *deficient functions* of *autonomous problem solving.*

(b) As we have commented after the description of each strategy, there would seem to be reflexes of each later, in the classroom situation. To summarize, the role division is strongly maintained. The teacher is the "one who knows" and the children learn to become responsive to his instructions. In many cases the teacher only gives piecemeal instructions and has the children waiting for the next part instruction. The children are sometimes given rather dubious feedback about the effectiveness of the understanding of concepts of procedures. It is very important that the children "be with" the attention (paying attention), even if they do not understand. The teacher of very young children provides an accepting environment for learning, although this acceptance diminishes as the children grows older for reasons which are not entirely clear.

The research done at the University of Natal focussed on a specific notion of Vygotskian theory which we need to introduce. They were working on what is called *The Zone of Proximal Development* (ZPD) which depends on a distinction between

development and learning. The children's developmental level is assessed in terms of their ability to solve problems unassisted. In contrast, the children's learning exceeds this developmental level and can be determined by assessing which additional problems the children can solve in collaboration with an adult or a peer (hence the classic interest in dyad problem-solving situation). The distance between the actual developmental level and the level of potential learning is the ZPD. Most important is the fact that it is in the ZPD that genuine teaching and learning occur. Vygotsky (1962) gives a clear example of what he means by the ZPD. He talks of testing two children on a task which formally ranks them at the mental age of eight years, on items they can do by themselves. However, one can discover the different Zones of Proximal Development by giving each child hints, leading questions and so on; in this way one might discover that the one child can, with assistance do items for nine-year olds, while the other can do those up to and including items intended for twelve year olds. The metaphor which Vygotsky (1987) uses is considering the child's development as if it were the development of an orchard. A gardener would not simply assess his matured fruits; maturing trees must also be taken into consideration. The maturing trees (to mix levels), lie in the Zone of Proximal Development.

Obviously, most of school learning takes place in a group context, and therefore it is that much more difficult for the teacher to match what she is teaching to the level of potential learning of each child. Because of this, general information about developmental levels of children should be extremely important in

curriculum design. And we do not simply mean a coarse-grained matching of (perhaps Piagetian) stages of learning to type of learning material. In fact, as Vygotsky (1987) percipiently points out, it is pointless to pitch instruction at what children are already able to do. Furthermore, to work effectively in the child's ZPD, one needs information about the social situation of different kinds of schools, and the kinds of understanding which children bring with them to school.

To make a general statement in theoretical terms, we would say that it is quite possible that the current curriculum for Std 3 is way beyond the average child's ZPD both in respect of the unfamiliarity of the second language and of the unfamiliarity of increasingly remote concepts. The point of future curriculum development and teaching should be to work within and extend the child's linguistic and conceptual ZPD as systematically as possible. In this sense, Vygotksy (1987, p.212) would concur that we would be using instruction as a source of development.

Craig (1985) re-created Feuerstein's (1979) deficient functions as "ideal" mediational strategies which should produce efficient autonomous problem solving skills in children. She suggests the following strategies:

* getting ready for the task,
* gathering information,
* specifying means and goals,
* making the problem explicit,
* attending to detail,

* visual transport (carrying information visually for one place to another),
* emphasising invariant aspects of the task,
* dealing with different sources of information,
* discovering causal relationships, and
* co-ordination and integration.

These mediational strategies are discussed in the Reasoning Skills final report; it is sufficient to note here that these strategies are strikingly non-social when compared to those identified by Kok. That is, they are conspicuously task-oriented. This does not mean that they could not take into account the child's social motives as well, although not where the latter take priority over task-centredness.

There are two further points that should be made in relation to the ZPD as conceptualized by the Natal group of researchers. Firstly, not all school learning consists of problem solving. For example, there are subskills which children must learn in reading, writing and mathematics before they can go onto meaningful problem solving using these skills. We develop this point further in Chapter Five below.

Secondly, the notion of ZPD is applicable to change in institutions as well as people. In other words, the stage where an educational system is developmentally, will determine what it can learn in an attempt at constructive change or intervention. We will take this point further in our analysis of potential change in the next section.

However compelling the Zulu dyad (paired learning) analysis is, we should not assume that it has accounted for everything which would go on in a school learning situation; the lack of confidence which the teacher feels as a professional, the very real demands of handling large classes, the scarcity of learning resources, and the demands of teaching through the medium of English would all contribute to the teacher falling back onto more authoritarian methods for getting her work done. A final point which must be made is the disparity between the child's experience at home and at school. We have in mind preliminary analyses coming from an HSRC project (under the leadership of C.Liddell) on black children's sociocognitive milieu during their preschool year. It seems that children are a great deal more active in their approach to their experience, including asking questions, than their behaviour in a school situation would have led us to believe. Although all the data is not yet in, our supposition would be that going to school would involve a radically new form of socialization for the child, which is based on strict role divisions in an authoritarian structure which has been constructed to replace previous indigenous forms of learning. The latter generally occurred in context, and involved the development of skills, rather than the solving of problems per se.

4.3 TOWARDS CHANGE[4]

As we have mentioned in the previous section, the people in Southern Africa are increasingly being faced by socio-political moves for or against change. The situation which we are in is a challenge to both individual and group capacities for adapting to changing circumstances. We are faced with opportunities for preserving or destroying past material circumstances, institutions and the semiotic network which surrounds our intentional actions.

Most of the debates about change focus on different forms of political action, but while one would not want to ignore this level of analysis, it is important also to analyse the cognitive constraints on change. We need to analyse these cognitive constraints to give us an adequate conceptual basis for examining change in society. In the section above we looked at Vygotsky's (1978) analysis of cognitive constraints, which places these in the particular context of actual social relations. He focuses on an analysis of how non-balance (a precondition for change) arises in the mediator or cultural guide. This analysis specifically addresses:

(i) the social actor,
(ii) his material conditions of existence,
(iii) the social communication between people, and
(iv) the social processes underlying cognitive development.

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[4] The first part of this chapter is based largely on Craig (1987).

Cognitive constraints will result from particular relations between people in society.

In this paradigm, the origins of self-regulatory activities (including higher order thinking skills) lies in culturally prescribed patterns of control. The patterns first exercised by the mediator are later internalized by the child. At the societal level the same can be seen to happen when an adapting system (e.g. black education) enters an unfamiliar reality, simplistically seen as white education. The adapting system (black education) may internalize through societal transaction the regulation exercised by the mediation agents of the adapted system (white education). In this contact the modes of regulation may change one or both of the systems: in other words, if black and white education were genuinely to transact, it is very likely that the interaction would change both systems.

In our society, fundamental social transaction is limited or even prohibited, so occasions for adaptation are absent or heavily restricted. As a result, each system is left opaque (perhaps mysterious) and only superficially approached by the other. What we are not getting to grip with in each other's system are the hidden meanings of the taken-for-granted practices, beliefs and so forth.

In order to transform a situation, people will firstly, need explicit *opportunities* to exercise their natural power to change and be changed; secondly, they will need to be empowered by the generative power of *transaction;* finally, there will need to be

agents to serve the *mediating function between realities*. The social guide or mediator, who is the interface between the social and the psychological, must create the *conditions for cognitive conflict,* and *the resources for surmounting it.*

An example of what might be meant by the observation that black education has entered an unfamiliar reality, would be that the participants don't know how much to expect from their children in the formal learning situation. Starting from the junior primary, teachers should learn to grow in their expectations of what is possible to expect from their children. In the present situation, it is difficult for a pupil to be better than a teacher: the teacher is the locus of knowledge, and the child can only do what the situation allows.

In any genuine learning there should be a conflict between current and expected knowledge. In our particular situation, this would be instantiated by a realisation of the conflict between what the children are taught before Std 2 and what is expected of them in Std 3. The conflict between the two situations has its roots in earlier learning. The problem is not simply one of language learning, but includes earlier learning of basic concepts and skills (processes), on the part of both the teacher and the children. The hiatus between the junior and primary phase should be recognised by both curriculum planners and teachers. This broader conception of the language policy problem is probably not widely accepted, but constituted the focus of the present research.

Craig conceives of the enabling conditions for change as lying in the generative mechanisms. The extrinsic and intrinsic generative mechanisms are regarded as co-determining change or development. With reference to the particular mother-child problem solving dyad situation which Craig studied, she invokes the notion of an exchange system; this is created between on the one hand the two participants engaged in the task, and on the other the task and any one or both of the participants. Her empirical data reflect two types of adaptive processes: children, who adapt to whatever reality the mothers construct for and mediate to them; and mothers **who have adapted to a known reality** and who are also in a process of **adapting to an unfamiliar reality**. Adaptation occurs in the problem-solving situation including re-definitions of the tasks, restructuring of the instructional process, and re-interpretation of the role of teaching or teacher. The task demands engagement in terms of its own (western) social meaning and the actors participate in terms of their own social and psychological development. From action a dialectic emerges between the actor and the task, between one historical tradition and another, from which a new synthesis will emerge which cuts deep into both individual and social change, however much it may resemble muddle and inadequate adaptation at the surface level.

Opaqueness of educational systems occurs for example, when a new "outreach or upgrading programme" starts from the private sector. Well-meaning field officers are at first bewildered by the situations they observe, and feel that they are strangers in a foreign land. Regretfully, the fact that state white and black education are so isolated from each other means that there

always has to be a painful period of adaptation before meaningful attempts at change can be initiated.

The mere fact that there are locally existing outreach programmes is an example of informal agencies of change which will serve to enrich both communities. It is to the credit of the Department of Education and Training that it is increasingly allowing such agencies to operate. Other informal agencies would include church-based initiatives for reconciliation, and columns in local newspapers. When well-meaning white people enter into these initiatives with unrealistic expectations of the quest for social justice, they find what the realities of life are for most black people, and that they do not easily find common ground for discussion (having previously only experienced a relationship of dominance), they go into a "disenchantment" phase, when they wonder whether it is all worth it, because people seem so different that the gaps may never be bridged; finally, there are those who come through to a "readjustment" phase, in which differences are accepted and common ground actively sought. However, it is still only in a very limited number of instances that white and black people are able to engage in anything remotely resembling normal social intercourse, and these would probably be between the newly emerging black middle class and younger white people, where there is some match between education and aspirations in both groups. Another potential instance is the case of "open" schools which admit children on the basis of merit alone. This instance of potential change is discussed below.

It is one of the ironies of the South African situation that there are open schools in what is otherwise a deeply segregated society. There does not appear to be research which addresses all the different private (=open) schools, but there is a comprehensive study on roman catholic schools conducted in 1986 by Christie and Butler (1988) for the South African Catholic Bishop's Conference. We are going to discuss the issues which have arisen over the past decade, what the implications for their curriculum are, and what the possible implications for curriculum planning in black education would be. This discussion is part of a larger conception that the Threshold Project has had about the need for multiple models of education in this country, with an understanding that many black schools, especially in the rural areas, will remain black for some time to come, whereas private white education is likely to become multiracial, and perhaps part of the state education system, in the medium term.

In 1976 the Catholic Bishops' Conference launched the open schools movement with a resolution on the integration of schools. In passing this resolution, the roman catholic church was explicitly breaking with both government apartheid policy and with its own history of segregated schooling. What followed was ten years of protracted negotiation with both provincial and central government authorities until the schools were finally legally recognised and subsidies granted in 1986. The white rather than the black roman catholic schools were made "open", and this meant that white standards and practices have tended to dominate. The schools require potential students to write entrance tests of some kind, but because these have largely been conducted in English, they

have tended to favour mother tongue English speakers over non-mother tongue English speakers (which would include coloured as well as black candidates).

Because of the marked discrepancy between the standards in black and white education, the schools have come to prefer admitting black students as early on in the primary school as possible (in the pre-school year if one exists), and none of the 42 school will admit pupils in the last three years of the senior curriculum, because the children simply can't keep up. The importance of the need to admit pupils higher up the school led Christie and Butler to recommend the need for bridging classes which would give pupils a chance to accommodate to their new learning situation.

The teachers at these open schools are by and large white, although black teachers are employed to teach the African languages. It is clear that there is a need for a variety of teachers as role models but it is purportedly difficult to recruit black teachers of quality. Christie and Butler suggest that the schools should try to encourage some of their own pupils to go into teaching and return to open schools. The irony is that these pupils would officially have to go to black teacher training colleges where the curriculum is explicitly designed for second language speakers, whereas they will already be educated to mother tongue competence in English. However, recently the (white) Transvaal Education Department has indirectly allowed black teacher trainees under its aegis, because these students are registered at the affiliated white university.

In interviews with pupils, Christie and Butler found that the pupils generally expressed liberal-democratic forms of thought rather than radical marxist thinking, but that the black pupils were markedly more political in their thinking than the white pupils. The intake of pupils would come from generally conservative sources, i.e. european immigrant catholics, and black professional middle class parents. It was found that opening schools doesn't of itself create opposition to racial thinking. It heightens "contradictory consciousness" (Gramsci's 1971 term) in which pupils become aware of the contradictions of everyday life in a racially divided society, but are in a condition of moral and political passivity.

To move beyond contradictory thinking to critical thinking requires a struggle with contradictions in order to develop a coherent conception of the social world. This is not the case with the open schools pupils, who seem to lack any historical or theoretical understanding of race relations in this country. This kind of insulation is a product of a thoroughly segregated society. At a time when there was violence and unrest being reported on the news, pupils showed only a personal response of fear in relation to it; they showed no understanding of violence in social, moral and religious terms and the notion of physical violence as a response to structural violence seemed to be completely foreign.

Many school principals denied the existence of racial differences within their schools. However, "not noticing race" may simply mean that there is no way of talking about race within the

schools: it does not mean that racial issues cease to exist (at the very least, there are issues facing black pupils who attend these schools). The research suggests that the nature and operation of race needs to be more consciously considered, both inside and outside the classroom, and a number of strategies are mooted.

In a situation of societal conflict, tensions within the schools are not necessarily negative; nor is the absence of tensions necessarily positive. The research suggests that white pupils' views of racial mixing are more positive where the schools have higher black student numbers. However, the evidence also suggests that racial dynamics may be more complex when black enrollments increase further. So, in a situation where black enrollments will hopefully increase, it is more important for open schools to develop ways of resolving tensions and conflict, rather than ways of denying them.

One way of creatively resolving tensions and conflicts as well as of developing a greater social understanding is to develop a broader curriculum. Most of the schools have not changed their curriculum practices since the days they were "white only" schools. Because of the uniqueness of their situation, the pupils could benefit from schools-based curriculum development linked to input from parents, community groups and educational bodies. We would suggest that the curriculum could address a multitude of social issues in a way that pupils could debate meaningfully. Here is a positive chance for values explicitly to re-enter the curriculum, having been excluded for forty years (cf. 3.4 above). One could adopt a notion that in a multicultural society, social

life is best interpreted as Malinowski's (1943) "third cultural reality", which is constructed in the transaction between contributory cultures. While a core curriculum of "logic" and "science" could be assumed, the movement towards the genuine integration of these constructs would arise out of the social processes of negotiation of differing value systems, social practices, and the current power disposition.

Christie and Butler comment critically on the practice of calling open schools "multicultural" schools, when this term is generally taken in the South African context only to refer to instances of racially mixed education, and not to the nature of the curriculum. Indeed they argue that the curriculum could equally take race, ethnicity or culture as the point of departure (but they do not deem it wise to make a choice). They say that theories of multiculturalism acknowledge that education is a cultural process and that western cultural assumptions are at the basis of South African education, and to this extent these theories of multiculturalism may be useful in analysing cultural assumptions in our current educational practices.

It is too early to say what direction new curricula in the open schools will take; since this should be a truly indigenous enterprise, its development will be an interesting study to be undertaken in a few years' time. However, it is likely that historical-political issues will appear, things which are not salient to us now. When our understanding of each other transcends mere reference to our racial origins, genuine cultural understanding will have begun to develop.

The open school movement is constrained by market forces in that the majority of parents are white, and they have a particular influence on policy in the school. We could say that these schools are offering to a handful of black pupils an individual solution to a structural social problem; however, given the small number of schools, they cannot be expected to overcome the deficiency of the state's education policy over a generation. Finally, Christie and Butler note that it is necessary for the schools to recognize and move beyond the assimilationist tendencies at the base of many of their practices. In more general terms we would want to add that the country has room enough for different types of education, and modelling a new system solely on English-speaking white private education is likely to admit a new form of racial or cultural domination.

Finally, we must comment critically on the practice in open schools from the point of view of bilingual education. While the schools are in the difficult position of having children who speak very many different languages, the children have a right to learn to read and write in their mother tongue, as well as in English, and some provision should be made towards this end. Perhaps the school could set up facilities for extra-mural tuition which the parents could avail themselves of. A long standing precedent for this exits in the teaching of Hebrew to Jewish children.

Broader issues of multiculturalism will have to begin to be entertained in South African educational thinking. Bilingual education in the United States of America has tended to broaden

the conception of bilingual education towards a *multicultural* curriculum. Apart from children's learning through their mother tongue until they are able to be mainstreamed in the English curriculum, there is also a concern that every child be able to be made critically aware of the place of minority groups, such as those based on race, language and religion, handicap, as well as different kinds of family units (Contreras, 1983a).

One version of multicultural education (described by Sleeter and Grant, 1987, as being at the level of advocacy rather than practice) which could serve as a template for reform in this country is called "Education that is Multicultural and Social Reconstructionist". Following Contreras (1983b) we take such policy as having the following components:

* being a positive study of South African diversity (including lifestyles, customs, religions, languages, etc.);
* comprising comprehensive educational reform for attaining social, political and economic equity;
* involving action which is designed to promote equity and to promote the value of diversity, where pupils will learn about action which is intended to promote equity.

One concept which would have to be overthrown for such a development to occur is the concept that a core curriculum comprises a set of value-free scientific facts which all children have to be au fait with. Current conceptions of educational equity have only led us as far as wanting all children to "learn the same", without a socio-historical critique of whether this

"same" is, where it comes from, and where it will lead to. While the value of learning to read and write English, and do mathematics is reasonably clear, much of what is left is negotiable. However, because of the particular character of South African political history, it may take a while to be able to celebrate our national diversity without being suspicious that we are undermining social and economic equality in some way.

4.4 A MODEL FOR THE STUDY OF THE CHILD AND THE DEVELOPING CURRICULUM

As part of the larger enterprise of the Threshold Project, we see a definite purpose in the conceptualization of further research within a coherent paradigm. Too many tired syllabus revisions pass as curriculum development, partly because they are not informed by coherent theory, and a coherent concept of children in relation to the curriculum. What is presented below has all been addressed implicitly or explicitly in the Reasoning Skills Final Report, but a general description in non-theoretical terms is attempted here.

In a transformational mode of society, we can say that society creates individuals, who in turn transform society. On the societal level we can talk about social forms being constituted by actors (i.e. not individuals), and so we can talk about the forms a culture would take, without having to refer to the competence of the people at the individual level. However, the individual engages in roles prescribed by social forms.

We would want (as we said in Chapter Three) to be able to distinguish between the descriptive level and the explanatory level. On the explanatory level, we can invoke generative mechanisms for change - intrinsic mechanisms (cf. Piaget) or extrinsic ones (cf. Vygotksy). Explanation may also be cast in terms of reasons at the psychological level, where reasons have a causal function, being circumscribed by social conditions.

The possible levels of description may be very different: for example, in a model proposed by Pascuale-Leone (personal communication, 1986, also in Craig, 1985), the first two, quite distinct levels would be the following. Firstly, the "objective" - a descriptive account of what happens from the observer's point of view, and secondly, the "phenomenological" - an account of the task from the subject's point of view. These levels of task analysis yield complementary information. (Pascuale-Leone also discusses four other levels.)

What is challenging here is that one could perform an analysis of a school task or situation at <u>each</u> of these levels. In fact, we will not fully understand the nature of school learning, and the demands it makes on the child until we can give an account of it at all these levels. Also, there is a <u>developmental</u> aspect to the description of all these levels.

To look at some *analytical entities*: the 'curriculum' could be seen on the one hand, as an intensified, perhaps objectified version of society, transmitted as existing social forms and knowledge about

the world, but at the same time, the curriculum would itself constitute part of the social processes underlying cognitive development itself. Pre-existing social forms and the social processes (e.g. teaching) through which social forms are transmitted to children could be analysed using the Vygotksian paradigm. However, we need to be able to escape from having to equate the notions of 'curriculum' and 'society', and we are able to do this in a dynamic notion of the curriculum, which includes the fact of the continuous transformation of tasks from their tradition conception in the children's natal culture.

The notion of the developing 'child' represents a conceptualisation of those powers of people which enable them to act and become actors (Harre and Secord, 1972), and is explained by intrinsic generative mechanisms. The 'roles' which children play are those slots which children slip into in order to reproduce the social structure. The slots may be conceived of as *available means for action*. The child in action becomes an 'actor'. When the child acts, analysis of this 'performance' will unite the psychological and the social domains (the distinction we explained at the beginning of the section).

This model attempts to move away from what Vygotsky calls the "stimulus-response framework" (1978, p.58) of considering mind as a function of culture. For Craig mind-in-action and culture-in-action each instantiate the other. So instead of the question (Sternberg, 1982, p.542):

"How do the differences in culturally organised experience affect the development of powerful and efficient problem-solving skills?"

Craig has formulated a new question:

"What are the enabling conditions for intentional and meaningful action?"

Looking at our broader problem area, Craig says that as a socialising agent, schooling meets the demands of western society and may produce changes in the cultural traditions of those who participate in the formal school system. But the cultural forms which the participants bring into the school system may in turn change that system and transform the nature of its supporting roles and tasks. We saw an instance of the adapting system changing the adapted system in the implementation of *child-centredness* in the Primary Education Upgrading Project, where this core construct was "indigenized" - see the School-Based Learning Experiences Final Report.

The issue of how a system is made aware of the discrepancies between existing schemes, knowledge, or known actions and the demands of the task is the crucial one. It refers to what Craig terms the "generative power of transaction". She stresses that it is important to understand this transaction as possible between people and people, and people and objects. The task may dictate its own resolution (reveal its own structure), and so it would provide a basis for change through action on it. Here we

are able to extend the notion of mediation to *mediation by the task*. This would be required when the teacher, herself an adapting system, cannot convey to the child the "deep structure" of the task insofar as it is opaque to her.

We present below a model for the possibility of change in formal

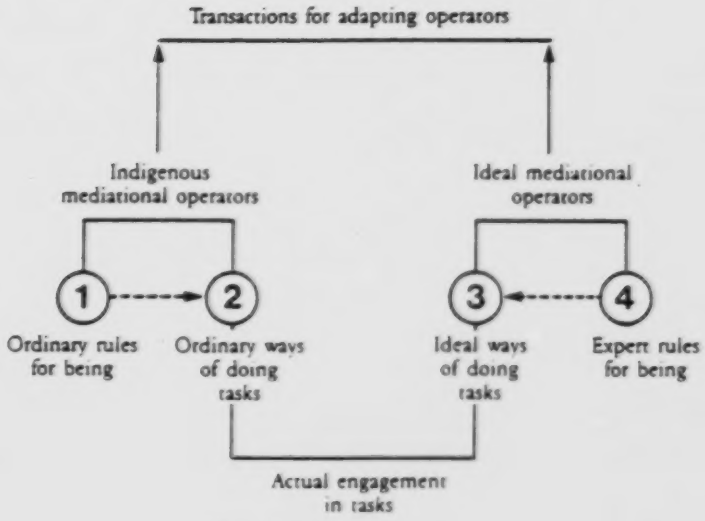

Figure 4.1: *A model for change in formal learning situations* (adapted from Craig, 1985)

learning situations which we have adapted from Craig (p.121), bearing in mind both the work of Kok, and the discussions which I have had with Craig and Bentley on this problem area. Implicit in this model are - quite clearly - further components of a research programme which has already been started for one purpose by the Natal group, but which may be constructively developed for the purposes of curriculum development.

This model tries to integrate what we discussed in the section above about the difference between ideal and indigenous strategies, and show that transaction is needed between the two systems. Circles 3 and 4 would require further research in general terms. However, this model is a general one for "the task", and the task of the child develops in different ways during the course of primary school, and specifically in the course of second language learning. The task as it is conceived in this paradigm does not simply consist of the description of the manifest (overt) performances; rather the underlying logic of the task should be analysed, as well as the taken-for-granted aspects, which we only discover in analysing children doing unfamiliar tasks: this is where the method of cross-cultural psychology can help in analysing tasks which are part of the everyday curriculum. What we also need to know then, in relation to the task, is what the learner brings to the task. In this way we might match the demands of the task to the resources of the learner.

An aspect of child development which has largely been neglected in cross-cultural psychology is that of affect. Jahoda (1986) reports

that the field is in the early stages of development, but that workers such as Harkness and Super (1985) call for the need for conceiving of 'cognitive-affective structures'. Although many psychologists have traditionally regarded affect as an attribute of individuals, it seems that seeking to understand emotions will involving understanding cognition, both being part of cultural constructions. Jahoda points out that emotional structures may be developed and learned in the same way as cognitive structures, and that emotional systems thus construed would include notions such as 'motivation'. This concept will, at face value, be of importance in an account of the child's learning and the adult's mediating, and would therefore have to be explicated, rather than simply mentioned in a coherent model. Emotions will come to be seen as part of the enabling conditions for intentional and meaningful action which Craig referred to; emotion and cognition will together become an intrinsic part of the individual's 'modes of being'.

In the development of a model, we will need (as we mentioned in the previous section) an account of how the learning/teaching materials mediate to the child as an adapting system, and to the teacher as an adapting and adapted system. In relation to the child, learning materials (as constituents of tasks) will have to mediate underlying abilities to the children and to the teacher. In addition the learning materials will mediate to the teacher a developing understanding of the nature of problem solving/formal learning experiences. In evaluating the learning resources, we would have to assess how they approximate to the task they purport to constitute, the nature of the children's adaptation to

the resources, the nature of the teacher's adaptation (both as learner and mediator), and what kind of motivational/affective structure can be developed through the resources.

In this last section of Chapter 4, we have tried to bring together concepts for a model for studying the child in relation to a changing curriculum. We have tried to show that such an enterprise will have to have an account of the analytical entities, levels of analysis, and the empirical manifestation of the phenomena under study. The core concept of mind-in-action, and extrinsic and intrinsic generative mechanisms accounting for change have been emphasised.

Although this account is not specified in detail (in the sense that we have been able to do a task analysis of school learning in all its manifestations), it did allow us to draw up a list of questions which we were able to address to the "teaching thinking" programmes which were described in the Reasoning Skills Final Report. A few salient observations from that analysis are made here:

1. No commercially packaged thinking programme known to us has a coherent theory of cognition which accounts for extrinsic and intrinsic generative mechanisms specific to formal school learning.
2. The specific effects of the teacher, able peers and the materials themselves as mediators are not coherently accounted for, although "directions for use" are given.

3. There is no thinking programme known to us that specifically addresses the interaction of the first and second language on the one hand, and the instructional demands of across-the-curriculum learning on the other.

It was a considered conclusion of the project that specific thinking programmes fall short of addressing the fundamental questions at the heart of the Threshold Project enterprise - i.e. identifying the enabling conditions for learning to occur - including what the children bring to the situation, what the tasks demands are, and the resources the teacher has in herself and in her environment for tackling her task.

The core resources probably do exist for developing a programme for developing thinking per se (including a co-ordination of Piagetian, Vygotskian and Information Processing Approaches), but it important that such a development should take place in explicitly recognised social contexts and be directed to particular educational ends i.e. promoting equity in a bilingual education system. However, it is unlikely that work on all these aspects would ever be addressed concurrently, or in a unitary framework.

To summarize this chapter then, in the first section the relationship between the notions of culture and curriculum were critically examined. Particular attention was paid to the notion of cultural relativism, which although in vogue in progressive or radical education abroad, may in our situation inadvertently lead to the notion of educational neo-apartheid.

In the second section of the chapter, Vygotskian socio-psychological theory was introduced with its integration of the notions of culture and cognition. Here we were able to give some account of the particular cognitive effects of schooling on decontextualised mediational means, and tie this up with recent thinking in cognitive developmental theory on executive processes. The major part of the section was devoted to an exposition of the striking parallels between research carried out at the University of Natal with pre-school children trying to solve a wooden puzzle, and our own observations of older children in a classroom-learning situation. We concluded that for black children schooling is a foreign form of socialization into which they have to be initiated, and much of their earlier spontaneity and initiative may be inhibited in the process.

In the third section of the chapter, we outlined the kinds of transactions and exchanges between individuals or social organisation that could facilitate change, and in the fourth section, a theoretical model for the study of the child and the development of a curriculum was outlined. We also reviewed a comprehensive study carried out on the "open" roman catholic schools, a study which casts some light on the particular issues that will have to be more generally faced as more of the country's schools become open. The development of a multicultural curriculum is seen to be a priority, a curriculum that is not deemed to be "scientific" and therefore supposedly value-free.

CHAPTER FIVE

SPECIFIC EDUCATIONAL ASPECTS

PART ONE: THE SITUATION

5.1. INTRODUCTION

When we talked about the research approach adopted in this project, we discussed the importance of allowing for values, beliefs and intentionality in our descriptive and explanatory levels of analysis. Furthermore, we tried to show how social structures generate human action, which in turn reproduces social structures. However, the structures that govern human action are not the same as the structures that the action produces. This fact allows for social change (Miller, 1989). The two notions which we should wish to emphasise here are the centrality of values, and the inevitability of change.

Yet much of educational thinking in South Africa has been within a different approach. For example, in Fundamental Pedagogics (cf. for example, Kilian and Viljoen, 1974), the educational theory which has supplemented Christian National Educational thinking in certain academic circles, it is held that there is a stage in scientific research that is value-free. The educationist is seen as a scientist concerned with education as theory, and his findings are supposed to be regarded as universally valid, being as they are "the scientific reflection on the phenomena and the universal-

verifiable logically systematized body of knowledge offered by such reflection" (Viljoen and Pienaar, 1971, p.10). However, the "pre-scientific" folk-psychology which lies before the "scientific" stage, and the "post-scientific" stage are both allowed to have reference to values. Enslin (ibid) asks what the value of the so-called scientific stage can be if it cannot critically examine the vital question of the values in operation at the pre- and post-scientific stages in the highly controversial Christian National Education policy. In practice what happens is that the CNE policy simply gets endorsed under the guise of "science".

One of the consequences of using Fundamental Pedagogics is that children as living beings get reified. Instead of talking as Dewey (e.g. 1956) does about children as living beings who are for example able to enter the experience of imaginative understanding, we get references to the attributes of "the child" as *"craving-for-support-and-understanding"* and his (sic) *"willingness-to-be-led-and-accompanied"* (Kilian and Viljoen, op cit, p. 3-5) which tend to reduce the child to a philosophical object.

More recently, economic considerations have turned educational attention towards practical considerations which might push ideological issues more to the background. However, the new *technicist* approach, as characterized for example, in the de Lange report, also lies firmly within old paradigm thinking. Here, as Buckland (1984) points out, we have reliance on the so-called scientific method, with its emphasis on "hard data", where the results are supposed to be value free. There are two dichotomies worth noting here (Buckland op cit p. 371-373):

a. There is a dichotomy between theory and experience, instead of experience having its central place in the construction of theory; abstract ideas are highly valued, and the status of the "expert" is elevated.

b. The other dichotomy has potentially more far reaching repercussions: once again the dichotomy between "values" and "facts". This leads to the idea that one can have "context free" thinking (i.e. without relevance to social or historical context). Social issues become "problems" to be solved by technical means; moral and ethical questions become reduced to questions about efficiency and control.

A possible outcome of technicism is a slide towards instrumentalism; progress, instead of being assessed in terms of equity, is measured rather in terms of technological progress, so that learning, instead of being a process of being, is reduced to a mastery of skills.

So much for the academic climate in which the current research is to be contextualised and evaluated; we have also been interested in how the education departments and the schools themselves view the process and products of our work.

Most of the research itself took place in the Bophuthatswana Education Department, and while we were visitors in that domain, we were taken into people's confidence, and great interest has been expressed in our results, particularly as they pertain to the achievements of their ongoing Primary English Upgrading Project

(PEUP). Particular interest has been shown about the relative role of the mother tongue and English. At the circuit level principals expressed themselves eager to implement our "new methods". In informal discussion it was a common opinion that it was pointless doing research unless the recommendations were implemented. This view, however understandable, posed problems to researchers who are only groping towards conceptually well-grounded recommendations in principle.

We principally conducted our research in one circuit of the PEUP, and there we discerned at first some reluctance to admit that Std 3 might indeed cause a problem for the children. It seemed that there might be concern that if we identified the children as having too many difficulties, then we might recommend a delay in the use of English. There was some surprise that we should consider the children as having insufficient competence in English for their learning task in Std 3, and it was said to us that the children catch up very quickly i.e. by Std 4. Schools tended to identify the causes of poor understanding in terms such as too high a pupil/teacher ratio, poor physical conditions, and lack of learning aids. It was only after prolonged discussions over a period of time that more underlying causes were brought to the surface for discussion e.g. that teachers find it difficult to speak English fluently, that they find the concept of differentiated (parallel) groupwork burdensome, and that they feel that one gets very little out of a child in Std 3. It took time to get from the teachers some kind of picture of the learning process as <u>they</u> envisaged it. Not all teachers could give us insights into the motivations for different accepted practices; those

who can are the decided exception.

The PEUP in Bophuthatswana was the primary focus of our research, and the DET the secondary focus. One of the reasons for our primary focus was to establish in detail a case study of change in progress. The PEUP has served as a role model to the whole of the subcontinent as an example of an open system which could easily and rapidly accommodate to change. One of the reasons for this was that it was originally designed from the expressed needs of the community, which was consulted in the first Lekhala Commission (1978). The project evolved under the guidance of the first co-ordinator of the PEUP, Christel Bodenstein, who negotiated change step by step in a grassroots "reform on a shoestring". The fact that the Bophuthatswana Education Department controls a relatively homogeneous school population, and teachers have a common will towards change, meant that the innovations could be "institutionalized" (i.e. made common practice and consolidated) over a relatively short period of time. Innovations per se could be implemented quickly since there was not a top heavy bureaucracy through which decisions had to be passed.

In our School Based Learning Experiences Final Report, we examined the aims of the PEUP and tried informally to assess to what extent these had been achieved. A summary of these aims appears in Table 5.1 below.

1. To change the classroom into a stimulating rich environment for children;
2. To divide children into ability groups in order that each child should be able to learn at her own pace, to become an active learner and to participate in the learning process;
3. To give each child an opportunity of learning from her own experience and of expressing herself, become creative, and of realising her full potential as a problem solver;
4. To help the child master new concepts and to explore these concepts fully;
5. To make learning a joyful and positive experience and to reduce harassment and confusion at this early stage of life and learning;
6. To help children build a good self-image, to be independent, self-reliant and to learn to share and be considerate towards others;
7. To plan the time-table in such a way that learning be more child-centred and so as to provide a well-balanced personality.

Table 5.1: *Summary of the PEUP aims*

In our ethnographic study we found that much of what the PEUP set out to do, they have achieved. We found that there are only two aims which have not been fully addressed. The one (3 above) concerns the development of the child as a problem solver, and we have seen that the materials and the presentation by the teacher has not been oriented towards problems, but rather towards the straightforward acquisition of ideas. The

second (4 above) pertains to learning concepts: new ideas are not introduced systematically, and by the time the children reach Std 3, they have difficulty coping with the veritable deluge of new ideas which is presented to them. It will be noticed that the aims did not refer to language learning per se, nor specifically towards the change of medium. Hence while achieving remarkable success in its own terms, the PEUP has fallen short of addressing the particularly acute and specific needs of language development for learning. The vision which we would have for the higher primary would require a major reorientation in the lower primary as a critical locus of initial development.

In accounting for the success of the PEUP we had the strong impression that this has lain in its systemic effect, and that it has not been confined to the psychological upliftment of all their small children. This is where their "total approach" comes in. In Table 5.2 below are extracted aspects of the total approach (from Holderness, 1986) which complement the aims presented in Table 5.1.

Aspects 1, 2, 4 and 5 are discussed in the School Based Learning Experiences final report. Point 3 deserves some comment here: this aspect must still be further developed, i.e. the orientation towards producing appropriate learning materials. The status quo of teachers producing all their own workcards has met some opposition at the chalkface, as well it might. If the teachers were to take seriously the injunction to write their own workcards, they

1. Motivate schools to overcome shortages in classroom accommodation;
2. Increase community involvement in the upgrading process;
3. Introduce, and where necessary, produce more appropriate learning materials;
4. Provide "hands on" coaching in the use of new materials and methods;
5. Organise follow-up classroom visits to monitor progress in the schools.

Table 5.2 *The total approach (apart from the aims)*

would be producing literally hundreds (400+) in a year, all handwritten and hand-copied. Because of the paucity of learning materials, the PEUP children are largely oriented towards writing, specifically creative writing, and the world of books still lies largely closed to them. (On the other hand the DET children are largely oriented towards listening (to their teachers), and do very little of either reading or writing.)

One of the most conspicuous innovations of the PEUP is the change of the classroom from the conventional all-looking-to-the-front class to a group-based organisation. This is in many respects a radical move (and one which required the arrangement of new physical resources such as trapezoid tables), although it still maintains the communicational status quo in certain important ways.

Small group work fulfills the most characteristic features of childhood: to be active physically, intellectually and socially, instead of being a passive recipient in a large class. In the PEUP the groups are ability based (apart from the earliest Breakthrough social groups), and they do differentiated work. The groups are usually 16-23 children in size, and hence function not as intimate child-based learning units, but rather as manageable units for the teacher to teach. When the children do their occupational tasks and classwork, they are engaged in parallel groupwork rather than collaborative groupwork. This means that occasions for meaningful negotiation of concepts are rather limited, but according to research done by Galton (1987), it is extremely difficult to facilitate genuine collaborative work, and it is usually only in the physical handling of materials for a practical task that children discuss what they are going to do.

One uncertainty which we had concerned whether teachers are always able to make the fine-grained differentiation in groupwork which their education department expects, despite some very valiant attempts. Sometimes the differentiation is too coarse, in the sense that the teacher overestimates what the first (fast) groups can do, and underestimates what the third (slowest) group can do. We were also concerned that early and radical differentiation might inhibit the development of those base level competences that all children need to make the transition to the higher primary phase, for example, to higher mathematics and higher order reading skills.

When we saw a parody of an "old" and "new" school being presented by children at a circuit year-end function, we were give a clear picture of what the teachers see as the critical aspects of the new method. In the new (PEUP) method, the children no longer drill, nor are they harshly treated by a disciplinarian teacher. Rather, the children are kept quietly busy on occupational tasks, and the teacher is regarded as a mother figure. The significance of the change should not be underestimated. Drilling and chorusing have largely disappeared in the junior primary phase, (only to reappear in the higher primary classes), and there is now a much greater chance of the child being engaged in meaningful learning.

The presence of the teacher, wherever she is, means that she is in complete control: for example, when she is doing a lesson introduction, working with a teaching group, or managing general features of the class. The children do not have autonomy in deciding on tasks; however, they are expected to get on responsibly with their own while the teacher is busy elsewhere. (However, children may sit confused and passive if they do not know what they are meant to do.) This is a great improvement over the situation where the teacher polices the class as a whole, not expecting the class to get on unless they have been explicitly monitored.

There is a fierce insistence in the PEUP that the teacher should be like a mother, and there is public admission that the power of this image has forced the male teachers to the higher standards. It seems that the heart of child-centredness as it currently exists

in the PEUP is a change in the social structure of the classroom. This in itself is no mean achievement, but it is limited in its present form since it excludes a sharp focus on task-centredness, which is at the heart of considering the learning needs of the children.

One of the other limitations of the concept of "motherliness" is that it is also still primarily limited to the young child, one who has very specific social and attentional needs. For example, while it is appropriate for the teacher to call small children to sit at her feet in the teaching corner, doing this with Std 3 children, some of whom are already adolescents, creates the impression of awkwardness and embarrassment. However, in many cases Std 3 teachers have decided not to use the paradigm method of the PEUP. We discovered this when we saw that the Std 3 children did not readily fall into groupwork. The disuse of this practice is understandable. Because of the poverty of their English, the children cannot readily contribute to the lesson, and the teachers on their part expect very little from the pupils in content subjects in English. The teachers by and large fall back on their much-maligned Rote Rhythm method (Macdonald, 1988).

The appropriate manifestation of child-centred groupwork at the higher primary level would probably involve the children doing projects in groups. To do this, the children would need considerable learning resources, the ability to negotiate complex meaning in English, and finally the orientation towards learning as a problem-solving activity. Any of these requirements is a tall order in the present circumstances. Further curriculum develop-

ment is required. As we pointed out earlier, children are much more likely to talk to each other when handling practical materials; reading and writing assignments lead to more independent, isolated work. What would be reasonable to expect from children at this stage must still be negotiated at the level of materials, language abilities and learning styles.

5.2 SOME SPECIFIC SCHOOL-BASED TEACHING AND LEARNING EXPERIENCES

The study of school-based learning experiences (an important part of the project brief) examined the situation in terms of how the teacher managed what we called (following Westbury, 1973) her "four tasks":

* she must present that which she wants to teach (mastery);
* she must give her students opportunities to practise that which is to be learned (coverage);
* she must get the class to work together in the interests of task attention and order (management).
* she must ensure that pupils are both ready for and interested in learning (generating positive affect);

The management of these four tasks has direct implications for the children. As will be seen in the description which follows, it is sometimes difficult to separate out what might be cultural influences in the school situation from the effects of generally poor physical resources. We look at these four tasks in turn. The

description which follows is based on the extended research reported in the School-Based Learning Experiences Final Report.

Firstly, there is the task of mastery. Every year the child addresses a new set of skills and concepts which must be mastered. These skills and concepts are spelt out in some form in the syllabus, but the syllabus does not always find realisation in the work done in the classroom. It was difficult for us to infer the levels of mastery expected of the children, because of the inevitable absence of learning materials. However, the absence of learning materials, the well intentioned but excessive use of creative writing exercises (in the PEUP) and the impoverished nature and paucity of teacher-generated notes (in the DET), the stereotypic nature of lessons, the lack of feedback to the children as well as the results of our own tests give the strong impression of lack of mastery of concepts, both in English, and across the curriculum.

The underlying causes of this lack of mastery would lie in the child's basic orientation towards formal school learning, his teacher's competence in inculcating concepts, the narrowness of vision of curriculum designers about what the child needs to know, etc. The aspect most obviously amenable to change would probably be the teacher, who would need to have a deeper understanding of the nature of the learning she is expected to inculcate; and she herself must have full mastery of the concepts in English. If she has full mastery of them, then she should more effectively be able to communicate this understanding.

Partly related to mastery is the second task of coverage. In coverage, the teacher must give her students opportunities to practce that which is to be learned. The factors which influence how the teacher gets through the necessary materials would include the teaching style, the type of curriculum, and the teacher's expectation of her pupils' performance. A strongly determining factor in the teachers' style is generally to expect very little of her pupils, which affects specifically the pace at which they work. As the children get very little done, the teacher gets through less material than she might. This phenomenon of low expectations is not immutable though; for example, before the introduction of the Breakthrough to Literacy courses, it was thought that Grade 1 children could only write letters, not words. Now the teachers are quite used to marking extended written discourse from children by the end of Grade 1.

However, changing the teachers' expectations will only go part of the way towards covering the year's work. From another angle, it is the duty of the syllabus designers to create a realistic work programme for the children, and it is the duty of materials writers not to over-richly interpret the syllabus by adding extraneous (albeit interesting) details to their texts.

The third task of teaching which concerned us was the management task of the teacher - how she manages a class, a collection of children whom she did not choose, but who must work together in the interests of task attention and order. One of the most salient features of management is that of time (as we suggested above, directly affecting coverage). There are a number

of reasons why "time slippage" starts to occur right from the beginning of the junior primary phase; we identified the following:

a. It is difficult to get through lessons quickly with a large number of children in the class; even forming groups can take some time.
b. The availability of resources will determine whether the children can get on with their own lessons, or whether they have to wait their turn for the use of the required lesson material.
c. As teachers frequently have little sense of stringency about time (including the planning of steps within a lesson), their children are unlikely to develop any; teachers in many cases seem to have a laissez-faire attitude to time.
d. Teachers do not manage their daily work programme very closely; nor do they monitor their yearly programme with any kind of accuracy. Part of the problem may lie in a difficulty with perceiving the essential integrity of units of work dealing with complex themes.

Although it is likely that this attitude towards time has its historical cultural origins in the widely spaced intervals of time which are significant to agricultural people, the present phenomenon could be conceived of in management terms. In other words, the problem could be addressed as one of helping teachers to keep to their daily schedule, and working out the consequences of skipping material in what is often an overly long curriculum. Once again, it may be possible to change the teachers' expectations of

their children; another factor which should help would be greater meaningfulness of the learning tasks for the child.

In generating positive affect, the task of the teacher is to bring the children to a point where they would like to learn, even though, in practice, they do not have a great deal of control of what or how they learn. It is generally supposed that children will learn more effectively if they are favourably disposed towards what they are doing. It would seem that a positive attitude would lead towards positive affect.

In the situation which we were researching, it would seem that the control of affect is patently the domain of the teacher, who by and large has relatively passive, biddable children. However, the fact that the children are not affectively autonomous makes them part of a closed system which is dominated by the teacher's general attitude and specific mood. The children watch for signs of tolerance and latitude very closely.

In practice, the teachers seem to have a very pragmatic approach to their children's affect; they think that they have a job to get done; they are not entertainers, they don't need specific affirmation from their children, but they do have particular expectations about what good learning behaviour entails. It entails doing what is expected of you and not trying to do more than that unless it is explicitly asked for.

In searching the literature, we found that affect in African cultures is very poorly understood by researchers, so we did not

get any help in our interpretations; part of the reason might be that it seems to be difficult for the people to talk about their emotions and those of the children. Emotion is not easily made an object of consciousness and would perhaps constitute what Geertz (1973) has called an "experience-far" concept. Hence we suggested that further research be conducted into affect; according to Christine Liddell (personal communication), who is currently conducting research with black pre-school children in their homes, understanding affect might indeed provide the key to understanding much about cross-cultural differences. I should like to add to this view by hypothesising that affect will come into interaction with the system of metacognition which is operating, for example, knowing how you feel, knowing how this would affect other people, etc. Affect will also partly determine motivational structure. And it may be that affect will have to be described in the same terms as cognitive structures (i.e. in "affective-cognitive" structures, since they follow or emanate from the same social, learning, context).

5.3 ENGLISH AS A SUBJECT

In the pilot study of this project, we used quantitative measures which indicated to us that Std 3 Bapedi children do very poorly in English as a subject, that they do rather better in their mother tongue, and where they are asked to perform the same across the curriculum task in either the mother tongue or English, they invariably do better in their mother tongue. However, in this report we are not going to report test scores per se , because

they are so difficult to interpret out of context and because their absolute value has to be compared both with the requirements of an undemanding English syllabus, and with an extremely demanding implicit syllabus of English across the curriculum. (For full details, see the English Language Skills Evaluation Final Report.) Instead, descriptions about what has been learned about the four modalities of writing, reading, speaking and listening are given.

The following samples of good and poor writing from the end of Std 2 will serve to illustrate the theoretical remarks which follow. First we have an example of weak writing:

a seller

A sell sels things He sels bananas, bread and coal drings. at Saurday a seller going to buy fruit and all things the seller dust the cupboat. the are many things buy in the chop. My Mother give Me money.

Here is an example of the best free writing which we could get from a school which uses the New Day by Day English scheme. (It should be noted that none of the schemes requires children to write completely without guidance, but for the purposes of evaluation, the schools require this.)

A visitor to the school

Mrs Evens is a visitor to my school. She is a guide Teacher. There are many guides. She come every Thursday. She come with a car. She sells the clothes for the Girl Guide. She come with the food. She

inrollmenet the guide.

By and large the writing of children is marked by "immaturity" in terms of the absence of certain structures as well as the incorrect use of other structures. There are a large number of structural problems - only a few are described here. There is the absence of third person singular marking on the verb, absence of the copula TO BE in the present progressive, absence of the progressive marker in the present tense, duplication of the subject with the third person pronoun, no anaphoric pronouns, absent or incorrect use of prepositions, limited use of conjunctions apart from and, and very little use of complex noun phrases, incoherent or absent paragraph structure, and finally, a high incidence of misspelled words. It should be noted that many of the syntactic errors are highly predictable in terms of the grammatical structure of the African languages themselves. Only one of the courses, Bridge to English, takes contrastive analysis as a point of departure for the introduction of particular structures. The undeveloped discourse structure which is so prevalent is a function of non-attention in the language schemes (except once again for Bridge). Teachers themselves teach peculiar notions, so that their children will tell you for example that "a paragraph is five lines"!

From a communicative point of view, there are two levels of error. Firstly, there are errors which hamper the comprehensibility of the sentence or utterance, for example lexis errors, where children use vernacular, Afrikaans and Black English words, as well as using avoidance strategies. (The most poignant avoidance strategy we encountered was the description of a large

owl sitting on a minute branch: "I saw a tree with leaves".) Secondly, there are errors which do not interfere with basic comprehensibility, for example, errors in the use of the articles a, the, and an (where the context can generally disambiguate the referent): once again the African languages do not have equivalent structures. Teachers tend to mark for grammatical errors rather than communicative effectiveness; indeed, it is not clear that the latter is a notion which is at all familiar to them.

What is more serious than error is the marked problem with the structures and vocabulary which the children are able to use. The adequate explanation of any of the content subject concepts requires a rich vocabulary, complex syntax, and the ability to link ideas logically.

A number of tests on reading comprehension were conducted. The overall findings are especially disquieting insofar as it is particularly difficult to determine exactly what the children understand: this is because their productive English skills are so poor. We were able to establish that they cannot answer low-level inference questions from a simple Std 2 text (when they are in Std 3), nor indeed more traditional factual questions from the same text. There is always much copying of irrelevant bits of text even when the exercise has been supported by rich pre-teaching. It has also been established that children find English connective devices difficult or confusing. (Indeed, who would have thought that linguists could identify eight distinct uses of and in English!) In this regard Morris (personal communication) has made the interesting observation that one should teach highly contrasting

logical connectors before those which have vaguer meanings. We also found that children cannot find their way around expository text very easily, because of the differing conventions when compared to the more familiar narrative text structure.

Because the children did so badly on what we considered very easy textual comprehension, we began to wonder whether they understood the basic question (WH-) words. We constructed a text with pictures from a Grade Two text, but the results were very disappointing, because children did not seem to be able to answer questions even when the answer was immediately above the space provided for the question (we had given them as much support as possible). We found that there was a distinct order of difficulty in understanding these words where who is the easiest, and then what, where, why and whose. Yet, these forms are taught early in the lower primary school. Difficulties with why indicate that children have difficulty answering questions about purpose and cause, which are concepts basic to clear thinking.

One of the principles we espoused in our testing was that by and large the children shouldn't be tested on concepts or skills which have not already been taught in English. (One important effect of this principle was that we did not test the children on specific skills which have been addressed in the recently published Bridge to English courses.) This principle would seem to be sound, since the children never have to deal with texts unaided, whether in the English or the content subject classroom. However, a day will dawn when they do have to use texts independently, and they

should be working towards that.

The spontaneous data from the individual testing of oral skills gives the impression that the children are not used to speaking spontaneously, and that it produces great stress in them to do so. The kinds of mistakes which children make when they are speaking are very much the mistakes they make when they are writing. For example, here is a transcription of a child describing a simple story which he is simultaneously enacting with Lego.

> Mr Tema and Mrs Tema and Benny and Betty they go the town. They go to buy the, the shirt and the and the other . . . and the other things. Mr Tema and Mrs Tema he does to town to buy many things. . . . Mr and Mrs Tema he park . . . They are going to the Edgars. . . . They go to buy . . . they go to buy for Betty and Benny . . . they buy the shirt and broek and other things. Mr Tema and Mrs Tema he come to the car.

The children's language, because it is not imitative in such a situation, appears to be more distorted than the language which is used in the classroom. However, this is no reason for them not to talk: it is the result of their not having had an opportunity to speak. If they had been taught communicatively, speaking naturally, albeit with error, should become in time a pleasurable and productive experience. As it is the language used in the classroom is largely based on what the teacher has just said, or more rarely, what appears in the textbook. The possibility of the

child sharing a truly novel insight through English would seem to be very small indeed.

It is difficult to determine the actual level of listening comprehension in a typical classroom, especially where the so-called Rote Rhythm method is in full swing (cf. Kok's fourth mediational strategy in the previous chapter). We coined this term to refer to the local version of the rote transmission teaching method. It has several disconcerting ritualized aspects. For example, very often the pupils don't have to be cued, they repeat spontaneously the last word or structure which the teacher has just said. The children do not have to pay the teachers their full attention. If they go into a cycle of chanting, they can disengage their attention, and the next "sentence-filler" can be filled in by short term memory store. The most worrying aspects of the method is its capacity to mask the absence of comprehension.

Apart from this general observation, we have further reason to believe that children's listening comprehension is not well-advanced. By Standard Three children do not have full mastery of Grade Two text (from the New Day by Day course), on a piece of dictation such as that reproduced below, and then decreasing mastery on further texts up to their own grade level.

> Mother is sitting on a chair. She is sewing. She is sewing a button on Benny's shirt. The door is open. Can you see Betty? She is playing with a ball. Benny is looking at Betty.

While they do not fully comprehend the relatively simple structures of their readers, children have relatively little comprehension of the technical language of the content subjects (see example below : this text is typical of subject texts in terms of the syntax and use of technical terminology). The absence of comprehension is typically accompanied by the practice of rote memorisation of purportedly simpler teacher notes; these notes themselves lack both cohesion and coherence, and will therefore exacerbate the difficulties of learning with meaning.

Here is an example of typical content subject text:

> Every muscle in your body is able to make some part of your body move. Muscle is made up of special cells that can relax and contract, rather like an elastic band. All muscles are of two kinds, voluntary and involuntary.

All content subject texts make a quantum leap from the English courses (specifically that which has been achieved by the end of Std 2) in terms of vocabulary, grammatical structure and concepts. Here is an example of typical Std 3 English-as-a-subject text:

> Jenny was having breakfast. She was drinking a cup of tea. She asked, "Did you put any sugar in my tea, Mother?" "No," said her mother. "Put in some sugar yourself."

The differences between this text and the health education text reproduced above should be evident without undue technical explanations about grammar and vocabulary.

The pronounced weakness which we discovered in the children's English skills leads us to believe that the current generation of junior primary children cannot cope with the challenge of the medium transfer in Std 3, at least in its present form. It seems that children are not achieving very well even in terms of the relatively modest objectives set out by the two major extant schemes i.e. MAPEP and New Day by Day; unfortunately we cannot make any definitive statement about children who have had the opportunity to learn via the Bridge to English courses, since it is only in 1989 that the very first of these children are entering Standard Three (and this particular group has not covered the full extent of the materials as envisaged by the author, Prof. L.W. Lanham).

5.4 THE DISPARITY BETWEEN ENGLISH AS A SUBJECT AND ENGLISH AS THE MEDIUM OF INSTRUCTION

The onset of the higher primary in Standard Three marks the transition to English as the medium of instruction. This transition causes many problems. One of these problems, the disparity between the English competence of children in Standard Three and the competence required of them in order to read a content subject textbook with comprehension was investigated also on the Threshold Project.

An innovative model of textual analysis was developed and used to analyse two English as a Second Language (ESL) schemes and two Standard Three general science textbooks. The two English language schemes analysed were MAPEP and Day by Day, which were the most fully developed ESL teaching packages available when the study was started in 1987. The two science texts were chosen on the basis of some preliminary empirical investigation, which showed that they were the most comprehensible of the available textbooks.

When we used the model of textual analysis, we assumed an idealized competence on the part of children who might have used either of the ESL schemes to their fullest extent, and be able to profit fully from their instruction. The gap between the idealized competence and the actual competence of the children is actually very large, and the gap between the idealized competence represented by the ESL schemes and the demands of the content subject texts is in its turn disconcertingly large. In a grossly oversimplified way we might represent the situation thus, without putting any numerical figures to the situation:

1. Demands of contents subjects ----------->
   GAP
2. Idealized English competence ----------->
   GAP
3. Actual English competence ----------->

Because the "disparities analysis" was conducted at different linguistic levels, we were able to give a finely differentiated account of the gap between 1 and 2 above (see specifically the Disparities Final Report). An abbreviated version of the findings is given here.

At the level of *lexis* (vocabulary), it would seem that children might have previously encountered not more than half of the words used in an extract from a science textbook. While one science text analysed seemed to be written for mother tongue English readers, and therefore didn't make any specific concession to English second language (ESL) readers, a well-intentioned technique in the ESL-oriented text misfired: the glossary contained difficult syntactic structures and yet more, unfamiliar, words.

At the level of *syntax*, it seems that even the "idealized" MAPEP or Day by Day child would encounter significant difficulties. Up to 60% of sentences may contain syntactic elements with which the children are unfamiliar. However, because the analysis did not focus on comprehension per se, it is not clear how easily children could identify the semantic roles through structures which are opaque to varying degrees. (So, for example, the child might pick out the agent and the action but cannot determine the role played by the object with its complement.)

While one (ESL) science text tried to make the children's learning task easier by using relatively simple vocabulary and syntax, it did so at the cost of producing what van Rooyen (1989)

called "impoverished" text, that is, the *cohesion* and *coherence* of the text did not make the connection between the ideas and concepts clear. The second text, on the other hand, had very well-developed cohesion and coherence. And yet when the comprehensibility of the original seven recommended science textbooks was determined, it seemed that these two very different texts were functioning in different ways to come to the same level of comprehensibility. What van Rooyen (ibid) concluded was that good cohesion and coherence could balance out the effects of relatively advanced syntax and vocabulary.

What became clear from an analysis of MAPEP and Day by Day was that the conventions of expository text were not being taught to the children, so that they were likely to experience what has been referred to as "register shock" when they first use formal textbooks. They will need to learn important things like how to use the table of contents, the functions of headings relative to subheadings, and the purpose of overviews and summaries or reviews. On the other hand, the Bridge courses (which have not been analysed, but only perused) pay specific attention to the conventions of expository text, as well as to what the Molteno Project calls "instructional language".

5.5 LEARNING CONTENT SUBJECTS

From what has been presented in this chapter, the reader should already have a fairly clear picture of what the teaching of content subjects i.e. history, geography, general science and health

education might be like. The limiting factors in the classroom include at least the following:

a. the teacher's difficulty with giving clear expositions in English;
b. the paucity of the children's English, specifically in relation to giving a reasoned account of new concepts;
c. the virtual absence of learning aids of any description;
d. the virtual unusability of conventional text material, and
e. the relative remoteness of the concepts from the child's experience.

The global effect of these factors is *the loss of meaning.* The children are likely to be alienated by what they have to learn, and only dimly perceive the implications and linkages between the concepts which they are presented with.

The paradigm case in subject teaching is that the teacher will give an oral input on a topic, perhaps accompanied by a demonstration of some sort from the front of the class, then the children will copy down notes which the teacher has compiled from the textbook and written on the board. Later the children will memorize those notes for reproduction in a test.

We do not want to labour the points we have made before about indigenous mediational strategies, and the Rote Rhythm method, but would like to give an illustration of the loss of meaning at yet

another level. Consider the following health education passage[5] (quoted above) which we used in our dictation test research. We are fairly sure (inferring relative comprehensibility from our results) that this is how the passage would seem to the pupils reading it:

> Every sumcle on your body is labe to karm some pats of you body move. Sumcle is make up of special sells that can lerax and tractcon tharer like and saletic ban. All sumcles are of two kinds nulovtary and in nulovtary.

The passage would not make sense to the children because of the high density of unfamiliarity words, and the replacement of some unfamiliar words by other similar words. Now, the teacher, if she was conscientious, might want to question the class to see if they understood it. She would be interested in the "facts" which the passage contains, and so her questions would be straightforward. First she might ask, "what are muscles able to do?" which the children would here as "what are sumcles able to do?" Back comes the answer "sumcles are labe to karm some pats of you body move". The next question would be "What is sumcle made of?", and the children might readily reply, "Sumcle is make up of special sells". Another obvious question might be, "What are the

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[5] We are indebted to McGregor (1971) for the idea of demonstrating how the lack of understanding can be obscured in asking for facts in this fashion. Our example goes further than his, which is based on difficult vocabulary.

two kinds of sumcle?" To this the children might say "The two kinds of sumcle are nulovtary and in nulovtary." The lesson proceeds and the pupils are able to answer quite intelligently, in the words of the passage which they did not understand.

The most important deduction to be made from this example is that even when pupils are confronted with a written passage (or even spoken discourse) which makes no sense at all to them, it is perfectly possible, as McGregor (ibid) puts it, "for questions and answers to go to and fro in the time honoured fashion". Crucially, they may not know what the words mean, but they do know that they are the words which the teacher wants. Although no real understanding of the passage is possible, because the children do not know the meaning of many of the words (and also distort the syntax), behaviour which looks very much like understanding can and does take place. This kind of teaching forms a closed loop from which genuine information about what is not understood can simply not escape; the teacher is safe as the controller of knowledge.

It is little wonder then that there is much recourse to rote memorisation in the content subjects. At the SAALA Conference in 1987, a delegate rejected the disdain with which rote memorisation is regarded, saying that first language speakers at Standard Three level also have to memorize their notes. To this Prof. L.W. Lanham replied that it is one thing to memorize something one understands, and it is quite another to memorize something one does not understand.

In rote reception learning, a simple linear link will be made with previously existing cognitive structures. This kind of learning leads to the problem, widespread in many education systems, of inert knowledge (Whitehead, 1929). This is propositional knowledge which the learner can express but not use. If we construct a model of knowledge in memory in information processing terms, we may think of it as being situated in a three-dimensional space, with both horizontal and vertical connections, and it is in the richness and structure of these connections that the difference between inert and usable knowledge would seem to lie. An effect of the typical mode of education would be that it specifically avoids the forming of connections between previously separated knowledge sites. In other words, there is no active integration of new information with what has been learned before. We will attempt to address the problem of creating a meaning-oriented curriculum in the next part of this chapter; part of the solution will reside in the production of more usable text.

PART TWO: TOWARDS CHANGE

5.6 LOCAL MODELS OF TEACHING AND LEARNING

We were able to infer from our school-based ethnographic study what the possibilities for a more developed teaching style might be in terms of a unique mix of progressive and traditional characteristics. The analysis we present first is directed specifically at the Bophuthatswana Primary Education Upgrading Project (PEUP), where change has already most visibly taken place (a

full analysis may be found in the School-Based Learning Experiences Final Report). Comments on the viability of this model within the DET and other education departments follow the first analysis, which is based on Bennett's (1987) categories.

a. *The nature of the subject matter*: We would suggest that subject matter could be integrated in the lower primary phase, and that it become progressively more differentiated only in the higher primary. Early attempts to compartmentalize knowledge almost always distances children from the subject matter, which becomes discipline-oriented, rather than being process- and child-oriented. What is important is that children do not have to face a medium change with a radical differentiation of content subjects at the same time.

b. *The role of the teacher*: While at the earliest stages, for example, with Breakthrough to Literacy (the mother tongue literacy programme), it is relatively simple for the teacher to act more as a guide and facilitator of learning, it becomes increasingly difficult to maintain this role. It is our contention that the teacher must still be seen as having control of the class, but that she can act as mediator if the task of learning is conceptualized in more open terms by everyone. That is, the teacher would be able to become more of a co-participant if the materials require both teacher and child to interact with them. However, when the content subjects become well-established only later in the higher primary school, the principal role of the teacher would be to promote meaningful reception learning.

c. *The role of the pupil*: At the earliest stages children would be encouraged to explore their environment, and use all their senses to explore it; gradually, they will be brought to have a critical awareness of things around them, becoming able to make simple inferences and predictions. The children will be brought to a carefully guided understanding of concepts remote from their experience. The children will remain active participants in the learning process by attempting to construct their own integrative meanings. This should be attempted both in their mother tongue as well as in English.

d. *Participation in curriculum planning*: Identified "master" teachers should be encouraged to participate in curriculum planning with primary education and subject specialists. The pupils' interests and capacities would be taken into account in order to match their learning tasks to the appropriate developmental level.

e. *The nature of learning experiences*: **This is at the heart of the curriculum change.** The learning experiences set up for children would be constructed in the here-and-now, and become progressively more disembedded from the children's immediate experience. However, the common element in these experiences would be that the children integrate their learning, "making it their own". Serious attention should be paid to the fact that by Std 3, there is a general falling back to reliance on memory, practice, and rote. The three

extrinsic reasons for this happening should be seriously addressed: firstly, that the average teacher is not generally capable of setting up meaningful group learning experiences at a higher level; secondly, the teacher lacks the material resources to set up such experiences (and here textbooks are categorically rejected by the project as an appropriate material resource); thirdly, everybody's job is made a great deal more difficult by the sudden (deep end) change of medium.

f. *The nature of punishment and reward*: The notion would be oriented towards the children's understanding the social context of their misdeed, and reward would be given for effort and not only achievement. However, we are aware that the affective-motivational structures operating are quite opaque, and that further refinement of insight must emanate from future research.

g. *The area of development which would be prized*: Here there are two aspects to be considered. Firstly, since education is greatly prized as a means to social mobility, it is understandable that a high achieving child would be noticed and rewarded. Secondly, since education is a phenomenon which is still relatively foreign to most family structures (with many parents having scant or minimum education), and schooling is not yet regarded as an agent of holistic development (i.e. addressing affective and moral development as well the acquisition of skills and knowledge), educational development in social terms might be opaque to parents. The lack of

connection with social and moral issues might be exacerbated as schools come to inculcate attitudes and behaviour which are foreign to traditional mores.

h. *The nature of testing*: Where this is applied, every attempt should be made to have it diagnostic of children's capabilities, without undue emphasis on facts. When formal evaluation is introduced, it should focus on the application of the principles which have been taught, in order to assess the progress the children have made with knowledge integration. Because the teachers lay great stress on accurate retention, and because they do not themselves always look for general principles and applications, one way to inculcate this notion would be by specifically locating questions in the learning materials.

i. *Co-operation vs competition*: This dichotomy touches at the heart of a conflict between traditional and Western values. In general terms, it would not do for the child to "stand out", although in the scramble for mobility (cf. g above), competitiveness is somewhat ambivalently encouraged. So, for example, the wide range of pupil achievement which is now manifest in PEUP schools is a source of discomfort to the teachers. The notion of the child's co-operation in the classroom is currently most manifest in co-operation with the teacher (where teacher and pupils are engaged in an exercise which has exclusive role boundaries), rather than with other pupils. It is clear that children are not considered capable of generating insights on their own; however, they

can be trusted to do parallel groupwork tasks together. It is clear to us that the notions of co-operation and competition would deserve further attention, so that the classroom can reflect a mix of the two values in a way which would maximize learning opportunities for the children.

j. *The location of teaching*: This would continue to be basically the classroom, until the school and community resources are further developed; however, children would be encouraged at every opportunity to apply their concepts and skills to everyday situations and events.

k. *Accent on creative expression*: As is the case in the PEUP, the accent should be on creative expression in the earliest years, but during the course of the primary years, the children would be trained to apply critical skills to the discourse processes (coherence and cohesion) of their own writing and speaking skills. Since we have reason to expect that these skills are often difficult for the teachers themselves, copious examples and practice should be provided in learning materials.

We are bound to make some general comment on how apt these parameters are to the DET and other education departments. Firstly, it should be noted that the DET is in the process of revising the junior primary curriculum using a Task Group which has identified a number of domains which are being examined by various committees and subcommittees. To that extent they are themselves currently engaged in developing a new model, and

since the present research is not formally linked with that enterprise, there is no interaction of necessity. However, since the Threshold Project leader is a member of the Task Group, there is informal interaction.

The Task Group is formulating a child-centred curriculum, with particular innovativeness in the area of English and Mathematics. One of the constraints on the curriculum development lies in the nature and extent of in-service training. There has been no innovation in the DET which can be said to parallel the work and achievements of the PEUP. Hence certain concepts and modes of being have been institutionalized in the PEUP which can be built on, given their concept of rolling reform; the PEUP is probably a decade ahead of the other departments. However, even given the will towards change, it is doubtful whether the DET could adopt the model of the PEUP without substantial modification. One crucial factor exists in the PEUP which could potentially be utilized in other national states/homelands (but not by the DET), and that is the energizing factor of a unity of purpose and vision. The sense of common purpose which we have seen expressed by teachers, organizers (inspectresses), and other educational officers stands in contrast to the apparently more individualized consciousness of DET teachers and inspectors.

Having stated these reservations, the analysis presented above could in general terms apply to other departments, including the DET. However, four exceptions to this generalisation must be made.

1. The role of the teacher (b. above): Where no notion of child-centredness exists, one of the most effective ways of developing the notion is by the introduction of Breakthrough to Literacy. This language course, designed for Grade One (and badly in need of a follow-up), introduces the teacher to the basic practices of child-centredness. In initial exposure to the method, the teacher requires formal training, and follow-up in-school support is also recommended.

2. Participation in curriculum planning (d. above): It is an interesting educational phenomenon that no practising teachers are included in the DET Task Group; their insights and abilities are represented on subcommittees by subject inspectresses. We are dependent on indirect sources (and that includes researchers) to make inferences about what is possible and not possible for a teacher to do. This is in line with the technicist orientation of South African education and its reliance on "experts". It must be said that teacher-based involvement is more likely to occur in locally-based initiatives such as action research. (Our own Std 3 science materials were revised in the light of teacher use and comment.)

3. The nature of testing (h. above): The PEUP makes use of on-going evaluation and formal examinations are not introduced until Std 3. This frees the teacher from the constraints of having to prepare monthly and quarterly tests and frees children from the constraints of having to memorise their work for these same tests. De-emphasising formal

evaluation may help to shift the orientation away from rote reception learning. However, the teachers would have to be encouraged to monitor the children's classwork continuously, giving them an ordinal score (1-5) rather than "real" marks.

4. Accent on creative expression (k. above): This orientation is markedly absent from all but PEUP schools. The importance of children's ability to express themselves creatively underpins the necessity for teaching them to become literate in their mother tongue: it takes children a very long time to be able to say things which are personally important to them in a second language - and so all the early opportunities, which are so motivating, are completely lost.

The importance of developing a curriculum which is compatible both with children's (modern township) culture as well as with the core curriculum which serves all the children in the country is indeed a challenge. It may be that this objective will not be achieved in the current round of curriculum development in the DET, but in the medium term small-scale research-based enterprises could be attempted. It is our contention that altering the language teaching policy will be a first priority, and that much informal research should take place within the constraints of writing the materials for the new English curriculum.

5.7 CURRICULUM DEVELOPMENT AND REDUCING THE DISPARITY BETWEEN JUNIOR AND SENIOR PRIMARY PHASES

One of the reasons which we identified for the trauma suffered by the children in Std 3 was that not only was there the change of medium to contend with, but the children suddenly have a much more complex curriculum to contend with. There is a downward pressure from an increasingly complex secondary curriculum and hence from the higher primary phase, but there is a great deal of duplication within the subjects, meaning that children repeat basic material with extra complexities from year to year (history is a salient example in this regard). The curriculum could not be thoroughly streamlined without a grand overview of Grade One to Std Ten, and nowhere has such an overview exercise been contemplated. However, the idea of such an exercise needs urgent attention.

Curriculum development in the broader context of the South African education would seem to be driven on the one hand by the vestiges of concern with the propagation of Christian National Education, but at the same time by a concern to follow what we regard as long extinct (pre-war) European education practices. At the same time technicist thinking of "curriculum as technology" is being imposed in part by higher order economic considerations. The dialogue and processes of curriculum development as it takes place in the Junior Primary Task Group specifically, works without explicit reference to the underlying socio-political concerns

which are driving the curriculum development effort and shaping the decisions which must be made. Following the categories of Eisner and Vallence (1974), we can identify in this work a strand of "curriculum as technology" thinking. Another strand which we can see in the somewhat diffuse preoccupation with child-centredness, is a vague tendency towards seeing early schooling as facilitating the "self-actualization" of "the child", liberating "the child" to achieve his full potential. A further strand would be a concern with black education's being seen to mimic white education in its forms, instead of seeing the school more positively as an agency of social change, a basis for reconstructing society through a curriculum attuned to social problems and current conceptions of "relevance". (It is this type of curriculum which is likely to be developed in the open schools.) A last strand which is largely neglected, partly because it is still poorly understood is one which would see the chief concern of the curriculum as the development of cognitive processes in children, providing cognitive skills which will enable them to attack problems and master material.

It is possible that the junior primary curriculum could become more structured and directed as a response to downward pressure, but the important point here is that concepts which are introduced should not be treated as just so much more content; rather these concepts should be introduced in the context of tasks which children will find interesting, and indeed compelling, tasks through which children can develop process skills. To this extent we would like to see a curriculum which is both task- and child-centred. From our research on science learning and cognitive

development, we would propose that the following process skills should be specifically addressed in the junior primary phase:

* observation (noting differences and similarities),
* making simple predictions,
* interpretating information,
* raising questions,
* hypothesising,
* devising simple investigations, and
* communicating by making records, tabulations and simple diagrams etc.

However, in our Std 3 general science final report, we raise the question of the need to investigate the limits to promoting a full-blown process approach, because of the patent limits to the teachers' capacities to facilitate these skills spontaneously. It is our impression, and also that of the Science Education Project (P.Moodie, personal communication, 1988) that teachers cannot readily identify process skills. If this is indeed so, then it follows that process skill facilitation would have to be built simultaneously into teacher training and materials, and this would initially lead to less flexibility for the teacher.

The content subject syllabi as they currently exist all have preambles about process and activity orientations, yet there is little in the content sections, and their realizations in textbooks, to suggest that writers have thought through the consequences of a radically different way of learning. What emerge are essentially conservative fact-oriented texts.

However, the notion of a core curriculum does not have to be stultifying or restrictive. Nearly a decade ago the Curriculum Development Centre in Canberra developed a document (cited by Holt, 1983) describing a core curriculum for Australian schools. It includes nine areas. They are each briefly described, in order to give some idea of what is possible in a highly creative situation, breaking down traditional discipline barriers, while retaining the development of high-level knowledge, understanding and reflective practice:

1. *Arts and Crafts*: this covers a wide and diverse area including literature, music, music, visual arts, drama, metal and plastic crafts and many others.

2. *Environmental studies*: the central purpose of environmental studies is the awareness and understanding of both natural and man-made environments, and sensitivity to the forces that may sustain or destroy them. This requires systematic knowledge drawn from different disciplines, as well as readiness for schools to participate in environmental maintenance projects which give pupils practical experience in the field.

3. *Mathematical skills and reasoning and their application*: mathematics contributes to a view of the world, and this view needs to be fostered through problem solving approaches, a wide range of applications and the training of reasoning. The relevance of mathematics to contemporary

life has become increasingly apparent through calculators, computers and other technical applications, of which pupils need at least a general understanding.

4. *Social, cultural and civic studies*: the focus of social, cultural and civic studies is the understanding of what is required for effective participation in social life, including the major political, social and cultural institutions and processes of different types of society (democratic/non-democratic, and advanced/developing). These studies include consideration of the place and significance of belief and value systems in our society, and have historical and contemporary dimensions.

5. *Health education*: the core curriculum would give scope to physical, emotional, mental and community health studies and to provide opportunity for practical applications. The area needs to be approached through a wide range of studies ranging from the sciences of human biology and nutrition to programmes of sport and physical recreation.

6. *Scientific and technological ways of knowing and their social applications*: science and technology are fundamental forms of human thought and powerful applications of organised problem-solving to problem solving in practical situations in the everyday life of individuals, for whole societies and for the world order. Their study in the core curriculum requires an emphasis on forms of knowledge, synthesis, interpretation and extrapolation of data, problem solving, decision-making

and social action.

7. *Communication*: communication includes both verbal and non-verbal modes and relates equally to knowledge and feeling - and these frequently interact, as for example in face-to-face conversation. Language studies are an indispensable tool in many areas of learning and are intimately related to student thinking and expression.

8. *Moral reasoning and action, value and belief systems*: the development of morality and the capacity to discriminate amongst values and beliefs is both a crucial part of the overall development of the rounded person and a civic necessity. Transformation of moral action from the level of habitual and routine behaviour in childhood to a mature stage of critical analysis and reflective action requires a systematic, continuing approach throughout the years of schooling.

9. *Work, leisure and lifestyle*: the notion of educating for present and future life is of central importance in schooling. (This would include such universal requirements as the ability to drive a car, plan a budget, keep records, purchase goods wisely, and organise a household.) It would seem important to plan such a life preparation element into the core by teaching it at the levels of knowledge, understanding and reflective practice rather than low-level skills and techniques.

It is clear that with some vigorous fresh thinking such as taken place in Australia that the face of primary education as it exists today in South Africa can be completely reshaped for the benefit of education as a whole.

5.8 POSSIBLE ENGLISH LANGUAGE POLICY MODELS

The presentation on language policy in this section is self-contained and may be read apart from the rest of this report. (Material directly relevant to issues of policy may be found in the last section of Chapter Three.) I shall make brief reference to the language medium situation as it currently obtains, the constraints built into the current situation, and the options for policy change which could be entertained, and I shall end with a brief reference to implications of the policy option which I consider most viable.

a. *The situation*

The history of language policy planning in South Africa has been dictated largely by political considerations: it is not the intention to document the painful process by which the black community has sought access for their children to English. This access is now officially sanctioned in Act 90 of 1979, in which South African black children may only be educated in one or other of the official languages after Std 2.

This section is predicated firstly on the assumption that language policy is an ongoing process which involves the state, the people, the education system, and the child with his or her learning needs. It is also assumed that black children need to learn English in order to become effective members of an urban-industrialized, multilingual society. I should like to quote Musgrove who is unequivocally opposed to relativism in education, but realizes the need for a dialectic in curriculum development (1984, p.138):

> The school curriculum is transformational. There can be no tincture of compromise over a core curriculum of Western science, Western mathematics, Western logic and a Western language. But there is an extensive interface of culture contact and conflict which offers focal issues of curriculum development.

A third assumption is that "separate can never be equal". This was recognised 35 years ago in the United States, and the thinking in that country has become more finely differentiated since then: it is interesting to note that the U.S. Supreme court declared in its **Lau vs Nichols** (1974) decision that:

> There is no equality of treatment merely by providing students with the same facilities, textbooks, teachers and curriculum; *for students who do not understand English are effectively foreclosed from any meaningful education.*

The final working assumption made in this section is that language policy could be explored and researched within an education department, without regard to the particular legal restrictions which currently obtain. The purpose behind our making a theoretical analysis is that curriculum development/revi-

sion initiatives being undertaken at the moment, and what the Threshold Project has to offer may be of some help in these initiatives.

The central question for us, then, has been to determine *the enabling conditions by which black children can come to use English effectively as a medium of instruction in the primary school.*

We should now like to look at the current school situation as it generally obtains (bearing in mind that considerable variation occurs in different circuits, regions and departments). According to a scrutiny of the 1987 Annual Report of the Department of Education and Training, which deals with figures from 1981 to 1987, it seems that there are three crisis points of drop out in the school system, i.e. after Grade 1, Std 3 and Std 6. In 1986 and 1987 it seems that a large number of children actually repeated Std 3, but the dropout after this time is still in the order of 60 000 pupils in the DET and homeland education departments. A salient cause of the dropout after Std 3 would seem to us to be the difficulties engendered by the "deep end" language medium change in Std 3: by "deep end" we mean that children make a total changeover from their mother tongue to English, taking on a total of ten subjects in English.

Qualitative data from many testing and observational contexts indicates that the Std 3 year is a time of trauma for both teacher and child. The children cannot cope with the sudden ("deep end") launch into a massive range of new vocabulary, structures and concepts. One of the measures, admittedly crude, which we have

indicates that **the vocabulary requirements in English increase by 1 000% from Std 2 to Std 3** (from perhaps 800 words to approximately 7 000). Extensive research carried out on the Threshold Project has revealed that the current generation of children are developing very few of the English skills which are required for the challenge of the medium transfer in Std 3 - at least to Std 3 as it is currently conceived, with the unprepared-for advent of the formal learning of content subjects in English. Part of the historical situation which we have inherited is that the task which faces the teacher and the child has not been sufficiently analysed to see what measure of adaptation in all aspects of the curriculum is required in order to use English effectively as the medium of instruction. The beginnings of such a situational and task analysis is the major contribution of the Threshold Project.

b. *The constraints operating in the situation*

Here the first which one would mention is that **teachers find it difficult to explain concepts effectively through the medium of English** to Std 3 pupils, and many of the junior primary teachers have a poor command of English per se and therefore find it difficult to teach it effectively even as a subject (Johanson, 1984; Burroughs, 1988). The poverty of the teachers' English language proficiency is often advanced in informal discussions as a reason why more English cannot be used in black education: hence it is a factor which has to be directly addressed in alternative scenarios for change. If it cannot be addressed, then we are locked into a cycle of ineffectual attempts at change.

Another salient constraint is that **relatively few junior primary teachers have been trained in the communicative language teaching paradigm**, a paradigm which many teachers find alien to their everyday modes-of-being in the classroom. Is it then simply a matter that teachers should be inducted into this new approach? Even here, there is not a one-step solution: I shall be referring briefly at the end of this section to the possibility that communicative language learning principles will have to be adjusted to the task demands of using language as a medium of instruction.

The recent HSRC comparative evaluation project (Kroes and Walker, 1988) showed three English schemes to be the best currently available methods of teaching English. The two which are currently fairly widely used in the national states, namely Mapep and New Day by Day, **do not adequately prepare children for the medium change**, as far as we have been able to determine, and the third has not yet been implemented to the point that it can be fairly evaluated to this end. However, this third course, which pays very specific attention to servicing the medium of instruction, is very demanding of teachers and requires in-service training (in fact the purveyors of the course insist on it). The urgency of the need to develop a variety of adequate courses cannot be called into question.

The fourth constraint lies in the current curriculum per se. The junior primary curriculum as currently operating does show weaknesses, particularly in the case of English, the special status

of which was not previously recognised, and in the area of environmental studies, which is thinly planned and is not designed to build preparatory conceptual structures adequately for history, geography and general science. However, I mentioned that current initiatives are imminent. But any curriculum revision is constrained in part by the "core curriculum" which exists for all education departments. In the development of a new core curriculum (currently under way) we have a genuine opportunity to make explicit for ourselves the relationship between the curriculum and culture and ideology. In general terms the other constraints on curriculum revision include the quality of the teachers, and the material resources which can be made available. The notion of child-centredness, which is now institutionalized in early education theory, is extremely demanding in terms of the nature and volume of learning resources which are required for it to be implemented. The Primary Education Upgrading Project in Bophuthatswana has provided us with a stimulating case study in curriculum innovation in a Southern African context, and details of our analysis are documented in one of our final reports (School-Based Learning Experiences).

c. *Options*

The scenarios which are possible in black primary education might look something like the following:

(i) Maintain the status quo of the sudden (deep end) change in Std 3.

The immediate implications of this is that the task of current curriculum revision enterprises is made simpler, and the major innovation achieved by the current work would be in terms of new method and a broader conception of the role of English: for example, I have been privileged to be part of a committee which developed a new syllabus entitled "English as a Medium of Instruction" for the junior primary phase.

The longer term consequences of maintaining the current language policy is that, although the children should become more competent at English, they will still be traumatized by the vast amount of English they will have to face at one time; junior primary teachers will have little opportunity to practise English which has real consequences in the classroom. The opportunity for positive growth in the junior primary teachers' English competence, a prerequisite for long-term effective change, will have been postponed indefinitely.

(ii) Maintain the status quo of the sudden change in Std 3, and in addition commission small scale research on policy options (such as that described at (iii) and (iv) below) in a limited number of schools.

The immediate implications of this is that systemic curriculum planning is simpler, and the major innovation achieved by the current revision will be in terms of new method and a broader conception of the role of English.

The longer term consequences of this option are the same as for situation 1, but information will become available over the course of perhaps five years which would inform the next round of curriculum revision; further intricacies of curriculum development will become a matter for research. There would be a costly duplication of manpower and money in developing a second curriculum in detail for a small experimental sample of schools.

(iii) Make a move to a model of a gradual transition from mother tongue to English.

The immediate implications of this option are that curriculum planning and implementation becomes more intricate; the junior primary children are introduced to a bilingual education environment in which they experience a gradual change in learning medium, and their teachers have to become adept at managing concepts in English.

The longer term consequence of this is that the teachers' competence in English should be incrementally increased, which should allow for longer term further phasing in of English; although the learning task of the children will become more complex in the short-term, there should be no sudden alienation from the processes of formal learning in the longer term, and the drop-out rate should fall.

It should go without saying that planning and processes of such a policy change as well as the impact it will have on the quality of classroom work should be thoroughly documented, preparing

the way for further changes in ongoing curriculum reform.

(iv) Make a change to a model of a gradual transition from the mother tongue to English, and in addition commission research on a modified "straight for English policy" in a limited number of specially selected schools.

The notion of a modified straight for English policy is derived from a critical reading of research on Anglophone Africa, where it seems that children who do not have a rich preliteracy background on entering school are more successful at learning English if they have first become literate in their mother tongue. Informal evidence suggests that a year's experience on a programme such as Breakthrough to Literacy (in Tswana, Zulu etc.) could bring children to a state of readiness for beginning English literacy.

The immediate implications for this are as for option (iii) above, with the management of a modified "straight for English" policy becoming a matter for a research and development project. Urban black people's aspirations towards the increased use of English (cf. data obtained by Kotze and Southey, 1989,) would be satisfied to some small extent. The consequences would be as for (iii) above, with the advantage that high performing schools (with competent principals, and teachers who are competent in English and manage their learning environment well) would in the long term possibly have an incentive for qualifying for a modified "straight for English" merit scheme. Aspirations for the increased use of English would be realized gradually. The idea would be engendered that curriculum development is an ongoing process,

one which both mirrors and prefigures changes in social structure.

A liberal view in language policy planning would be to allow for local choice in language medium introduction. In order for such an approach to work, parents and communities would have to have a dispassionate account of the merits and demerits of the different options, and school and circuit administration be able to deal with the procedures necessary for implementing different options. If there were initial confusion in an unexpected plethora of choices, schools could perhaps be put onto a "default" scheme, which would be the most generally feasible, in our view, the gradual transition model.

(d) *Further implications of policy change*

If any education department decided to opt for the scenario which we have called "the gradual transition" policy (in (iii) and (iv) above), a scenario which we consider the most viable, then a number of principles would have to be immediately considered:

1. **The choice or development of an effective mother tongue literacy programme would be a priority**. This principle is derived from the so-called Interdependence Hypothesis in bilingual education theory, and here we should like to refer to the motivating effects of effective early learning of mother tongue literacy skills is. However, the mother tongue curricula do not at the present moment seem sufficiently robust to carry through an academically based mother tongue maintenance program: apart from this there seems to

be ambivalence in the community about how strong a part the mother tongue should play in education.

2. **The choice or development of English courses which have a trade-off between efficacy in the hands of a teacher and the amount of training required for their use.** To this we would add a principle that should not be interpreted as a call for "teacher-proof" materials. Change in the teachers should take place through change-inducing agents, which include tasks which mediate to both them and their children. This notion has been developed most strongly in cognitive developmental theories, and we see it as being productive in the domains of language and other formal learning.

3. **The choice of when to start the transition (perhaps Grade 2 or Std 1) and when to have it complete (perhaps Std 3 or Std 4).** Here the community aspirations could be accommodated with terms which educators think are reasonable.

4. **The determining of which order subjects should be transferred to English**: this decision could rest on such principles as:
   * whether the subject is principally experientially based (like movement education and general science) or cognitively based (as mathematics soon becomes);
   * whether the content is close to the child's experience or remote from it (such as social studies), through each standard;

- whether the mother tongue has sufficient terminology to carry the subject through to the later stages of the transition.

5. **Careful curriculum planning**: the curriculum would have to be planned in such a way that in the year in which a particular subject is being transferred, the mother tongue (subject) materials could lend support to the concepts being learned in English, while at the same time, the English (subject) materials could be preparing the ground linguistically and conceptually for the changeover of the subjects the following year. Hence, there is likely to be a need for a carefully tailored, but not absolutely constrained, general curriculum.

6. **The need to track the parameters of the learning tasks facing the children**: they should start out their learning of English with an orientation towards enhancing their *basic interpersonal communicative skills* (BICS), and by the higher primary the orientation should have shifted markedly towards the achievement of a *cognitive academic language learning proficiency* (CALP). These two conceptions which have been derived from bilingual education theory, have been explored in detail in our final report on English Language Skills Evaluation.

We have up until now considerably underestimated the task facing black children with their legitimate aspirations of being educated in English: we hope that our project analyses will help to open

up the field further for constructive discussion on the issues surrounding the ongoing development of language policy. Language policy as Hawes (1979) reminds us, cannot be separated from more general issues in curriculum development.

5.9 MOVING FROM ENGLISH AS A SUBJECT TOWARDS USING IT AS A MEDIUM OF INSTRUCTION

An issue which would be of interest in our context is the relationship between proficiency and academic achievement. Recent workers in the field (e.g. Olson, 1977; Donaldson, 1978, and Bereiter and Scardamalia, 1982) find it necessary to distinguish between the processing of language in informal everyday situations, and language processing in most academic situations.

A useful distinction has been drawn (Cummins, 1980) between basic interpersonal communicative skills (BICS) and cognitive academic language learning proficiency (CALP). So for example we are able to distinguish between the information processing demands of engaging in a casual conversation with a friend (BICS) and reading or writing a complex expository text (CALP).

Another useful distinction has been made (Cummins and Swain, 1986) between context embedded and context reduced communication. In context embedded communication the participants can actively negotiate meaning, and the language is supported by a wide range of paralinguistic or situational cues. On the other hand, context-reduced communication relies primarily on linguistic

cues to meaning, and may even involve suspending knowledge of the "real" world in order to manipulate the logic of the message. There is an interesting model (developed by Cummins, 1983) which also allows us to represent the degree of cognitive involvement in communicative activities (the first distinction above) as well as the range of contextual support (the second distinction above). It is reproduced below at Figure 5.1.

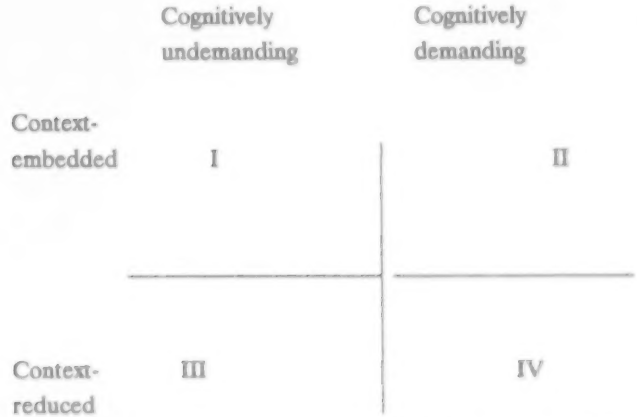

Fig. 5.1: *Range of contextual support and degree of cognitive involvement in communicative activities* (Cummins, 1983)

The horizontal continuum is intended to address the developmental aspects of the degree of active cognitive involvement in the task or activity. So, at an early stage of learning to write for example, nearly all the child's information processing capacity would be taken up with the mechanisms of writing; later the mechanics would be automatized, and the child is able to

concentrate on the content and structure of the writing. So, as mastery is developed, specific language skills travel from right to left on the horizontal continuum.

The above framework can be applied to language pedagogy. Successful initial reading and writing instruction is embedded in a meaningful communicative context, while the later aim is to develop pupils' abilities to manipulate and interpret cognitively demanding, context-reduced text.

It has been argued by O'Malley (1988) that ESL and bilingual education programmes have failed to meet the needs of L2 pupils insofar as they do not take the learner through from context embedded cognitively undemanding tasks to context-reduced cognitively demanding tasks. Our own analysis of the majority of ESL courses for junior primary children is that their weakness lies precisely in this area; then, later, the content subject teacher fails to supply any scaffolding for beginning learning in the content subjects (partly because current textbooks fail to recognise this end). We have argued (Macdonald, 1988) that there should be a natural transition from quadrant I to quadrant IV of the framework presented above. O'Malley (op cit) has developed a list of tasks which would occur in the four quadrants, and this list, which I have developed further, may be found at Figure 5.2.

We feel that an analysis such as the one below is very important, because it enables English Second Language course planners (preparing children for English as the medium of instruction) to go far beyond that which conventional teaching principles would

Cognitively undemanding	Cognitively demanding
I	II
Context-embedded	
Language drills with context Face-to-face conversation on form-ulaic lines, later, simple topics Following demonstrated directions Keeping a diary Playing a simple game, where roles and routines are modelled Art, music, physical education, where model has been presented Vocational subjects e.g. woodwork, where skills may still be learned by imitation	Demonstration of a process Content subject task with demonstration Answering higher level questions e.g. temporal sequence, cause-effect relation Making oral presentations Hands-on science activities Maths - computation problems Maths - word problems with concrete objects or pictures Heavily illustrated textbooks Making models, maps, charts
III	IV
Context-reduced	
Uncontextualised language drills Answering lower level questions Writing answers to lower level questions Predictable telephone conversa-tions Shopping lists Recipes Informal note/message of predic-table topic Directions for taking medicine Copying words and sentences Filling out simple forms Writing simple narrative of per-sonal experience (knowledge telling)	Content subject explanation without demonstration Reading comprehension without extra textual support Reading for information in content subjects e.g. to extract topic or main ideas Maths word problem without illustration (with increasingly difficult syntax) Compositions, essays, on topics immediate-ly outside pupils' experience Research and report writing where dif-ferent information sources need to be consulted Writing answers to higher level questions Standardised achievement tests

Fig 5.2: *Classification of language and content activities* (extended from O'Malley, 1988)

currently predict or support. We would further recommend that ESL specialists could usefully work together with primary education specialists to develop a classification extended from the present one, using information about language functions and structures, and content subject area concepts and typical tasks.

A further recent extension by O'Malley (ibid) has been into the development of a full-blown 'Cognitive Academic Language Learning Approach' (CALLA). This approach is based on the notion of learning strategy instruction, a concept to be evaluated in its own right. It is a pupil-centred approach which helps pupils learn conscious processes and techniques which facilitate the comprehension and retention of new skills and concepts.

CALLA is targeted at upper elementary and junior secondary programmes, and we have reason to believe that the approach, based on metacognitive, cognitive and social-affective strategies might be modulated to meet the need of younger children and less sophisticated teachers. Nevertheless, the rigour of objectives setting and the organisation of lessons into distinct and recognizable phases could well give point to lessons which would look rather unlike typical content subject ones.

A less rigorous but equally interesting analysis has been carried out by Ireland (1987), who points out that learning English through using it as a medium is a rather narrower enterprise than learning English naturalistically. The chief difference between the

two lies in the wide variety of roles and functions available to the teacher and the narrow range available to the pupils in a typical classroom situation. Ireland also points out that the early primary classroom is not a linguistically rich environment in terms of either novelty or complexity of the language used (events are predictable, learning takes place principally in the present indicative mode). A number of suggestions arise out of Ireland's work:

1. Pupils should have as much opportunity as possible for spontaneous speaking (getting comprehensible input, monitored practice and small group opportunities for individual practice).
2. Formal instruction in language structures and vocabulary should be closely related to and justified by functional lessons in which the pupils naturally use what has been learned.
3. The teacher should create situations in which the pupils exercise functions other than responding. It should be possible to create a situation, including group work, in which pupils initiate, evaluate, speculate, and command in ways which are acceptable in the classroom.
4. Close attention should be paid to the nature of texts which children use in content subject teaching; rather than using the current "inconsiderate" texts, they should have access to texts which are coherent and cohesive and able to engage them in ways suggested in 1-3 above.

In summary, we have strongly recommended that there be a gradual transition from a communicative approach to the early learning of BICS, to a more CALLA type approach, which will start to incorporate across-the-curriculum concepts, and ultimately transform the conventional teaching of content subjects.

5.10 PRINCIPLES AND PROCESSES OF MATERIALS DEVELOPMENT

A major enterprise of the Threshold Project was to analyse the comprehensibility of the current Std 3 texts (and we took general science as our sample), and to produce sample texts to be researched and evaluated. The project produced sample general science text (24 lessons), sample geography lessons (6 lessons) and sample history lessons (3 lessons): both the science and geography texts were piloted and evaluated. These texts and their evaluations constitute third and fourth tier documents, also published by the HSRC, cf. Figure 1.1 above.

Significant problems were found with the majority of existing texts (cf. the Disparity Analysis final report for a full analysis). It seems that South Africa is not alone in the production of poor texts. Durojaiye (1974) criticises English speaking authors of Nigerian texts for not having achieved sufficient proficiency in English. Van Rooyen (1989) levels the same criticism against writers of educational texts in this country. Books written for English L1 children are sometimes used for L2 children without change, or else these books are inadequately simplified according

to mechanical readability formulae, sometimes resulting in text even less comprehensible to the L2 reader than the original text would have been (Wegerhoff, 1981).

Van Rooyen argues that close contact with the target group (i.e. the children themselves) and an intimate knowledge of their linguistic and learning competencies can be regarded as the most critical prerequisites for the aspirant author. The textbook writer should be fully au fait with the structures and conventions the children have learned, so that these structures can be used and built upon systematically. Van Rooyen stresses that new structures should be introduced sparingly and only when equivalent structures are not known.

Textbook writers should also take cognisance of the limited vocabulary the children possess, and use as many familiar words as possible in the text. It is important not to use obscure vocabulary unnecessarily: Lanham (1988) gives the example: *Plants lose water in tiny droplets. Look at arrow 1. This is a sign which shows that small drops of water go up into the sky.* Clearly, where English makes liberal use of synonyms for interest of reading, this practice would have to be held in check. Lanham (ibid) has also developed a principle that important information-bearing words whose meaning the children may not control should be semantically reinforced. This means that the same referent is referred to by two (or more) semantically close lexical items - preferably, one a relatively simple, "known" word as far as the child is concerned. So, for example, instead of *Plants need wet ground so that they can grow*, we get *Plants need water in wet*

ground so that they can grow.

Text which is cohesive and coherent is more comprehensible than text which is not. Lanham (ibid) point out that particularly in descriptive discourse, propositions should be avoided which are conceptually non-sequiter. Sometimes statements occur within paragraphs, for the sake of completeness of information, but they lead nowhere for the child. The consequences are left implicit, that is, they are not spelt out in the text.

Where elegance is at odds with readability in style, then readability takes priority. (e.g. *The man's leaving home made his wife sad,* vs *The man left home. This made his wife sad.*)

Authors must write texts which are cohesive, and make sure that the referents for the cohesive elements are easily retrievable. (e.g. *Leaves make food for the plant. They can only make food if the they are in the sunlight. The stems and branches hold them in the sunlight.*)

It is best to make logical relations explicit through the use of connectives, but specific attention should be paid to connectives which have maximum contrast value (e.g. For example, one might want to use the phrase *as a result* when one wants to indicate result, instead of the easier *so* which can co-occur with other words to mean slightly different things, e.g. *so as, so (...) do, so far as, so (...) (that)*). Once again careful attention must be paid to using the connectives the children are likely to know. If new connectives are used, the relationship the connective expresses

should be made as transparent and explicit as possible.

Authors should also make use of coherence conventions to make their text easier to process, but they should be careful to use comprehensible syntax, vocabulary, cohesion and paragraph structure when writing headings, overviews, summaries etc. When giving instructions or asking questions, individual instructions and questions will avoid confusion. For example, instead of using the following sentence: *How do chickens reproduce and what happens to make sure that as many eggs as possible hatch and grow into adults?* it can be divided into the following three sentences: *How do chickens reproduce? How does the hen protect the eggs? How does the hen protect her chicks?* (Rogan 1979, p.39).

It is suggested that people are allowed into expository text as agents or grammatical subjects, simulating the narrative text the children are more familiar with. This may result in longer text, but will simultaneously make ideas more explicit and reduce the burden of information processing (Perera, 1986, p.62). Perera suggests using characters such as children to interview content specialists who can explain concepts rather than expository paragraphs explaining the same content out of context.

If these suggestions are to be taken literally, it should be clear that the resulting texts will not look like conventional textbooks. They will be more interactive in nature, requiring the children to write, answer and comment on the work in a workbook-like textbook. Such hybrid texts would be more personal and meaningful (Sutton, 1974), and could be made even more so, if they

could be used in conjunction with the children's own writing on direct observation and creative interpretation (Carre, 1974).

It has been argued that it would be more productive to teach the children to come to terms with the more difficult language of textbooks in the English class (Perera, op cit). However, in the case of black Std 3 children in the current dispensation, the disparities they have to cope with have become so enormous that teaching them more language alone is not feasible. The authors of the textbooks they will have to use in later years will have to contribute to the closing of what is currently a yawning chasm. (Other recommendations which could serve to diminish the disparity between Std 2 and Std 3 have been discussed at 5.4 above.)

Van Rooyen (ibid) stresses that both text and the manner of its use are important in determining its comprehensibility, and that information about both should be available to the publishers of textbooks. She also suggests a model for producing textbooks which she believes - while costly and time-consuming - should result in texts which are more usable.

When publishers want to fill a need for a "textbook" in a specific area, they should constitute a panel of the following specialists:

a. A legibility specialist
b. A developmental psychologist
c. A teacher who teaches both the target group and subject
d. A content (subject) specialist
e. A(n) (applied) linguist

The writing process would then proceed as follows:

1. The content specialist, teacher and developmental psychologist reach agreement on what the children's background knowledge, cultural background and cognitive developmental level are.
2. The content specialist writes the text.
3. The draft text then goes to the linguist who edits the language to make it comprehensible without editing the content.
4. The panel collaborates to check the feasibility of the draft.
5. The panel goes to the legibility specialist who does the lay-out and makes sure that the text is optimally legible.
6. The teacher trials the textbook draft and recommends possible changes which are incorporated if feasible.
7. The textbook is published and/or submitted to a textbook selection committee.

Textbook selection committees have an unfortunately inhibiting effect on the nature and variety of texts that tend to be prescribed. In many cases the criteria for selection (generally done in the first instance by anonymous reviewers) are either vague or irrelevant and this results in the favouring of stereotypic texts. Procedures for reviewing texts need to be aired for discussion, especially in the current situation where no other "information books" exist in the school apart from the textbook.

CHAPTER SIX

SUMMARY OF DIRECTIONS OF POSSIBLE CHANGE

In this final chapter of the report, the possibilities for change are analysed in the same categories as in Chapters Three, Four and Five.

a. *Political policy changes*

1. This includes as yet undeveloped possibilities within a unified educational system, with the opening up of some state schools to children of all races, while acknowledging that a great number of black children will still be accommodated in schools similar to the present ones for some time to come.

2. A need is seen for further influences of black and English thinking within the executive corridors of black education to broaden the notion of "the accepted ways of doing things".

3. The notion of education as a preparation for life in its broadest aspects should be encouraged, rather than of education for taking one's place in an economic system.

4. The possibility of opening up the language policy is seen in two specific models: a modified form of "straight for English", and a "gradual transition" policy. The importance of becoming literate in one's mother tongue is stressed, while allowing for the fact that becoming proficient in English is also a priority. The implications of the different approaches are clearly spelt out (cf. section 5.8).

b. *Social changes*

1. In Chapter Four, we refer to the necessity of transactions between systems, that is, more informal initiatives between different educational, religious and other formal and informal groupings.

2. We described in some detail the notion of developing a coherent model of the child and the curriculum, which includes task analyses of formal school learning tasks. A central focus in such an enterprise could be the explication of Vygotksy's Zone of Proximal Development as it applies to learning in the individual and group contexts. The central question to be addressed is "What are the enabling conditions for intentional and meaningful action in school learning?" The analysis of current teaching of thinking programmes concluded that none of the currently available options adequately answers this central question, and make no reference to what the children bring to the situation, what the task demands are, and the resources the teachers have in themselves and their environment

for tackling these tasks.

3. The so-called open schools and their experiences over the last decade and some of the dilemmas which they face have something to teach us about "non-racial" schooling, principles of curriculum development, and future initiatives in multiculturalism which will be imperative for promoting social and economic equity.

c. *Formal educational change*

1. We outlined parameters for changes and development in current teaching styles, which vary between the different education departments; the parameters may appear bland or self-evident, but they have been carefully considered for their feasibility in the Bophuthatswana Education Primary Education Upgrading Project, as well as in other departments. A congenial mix of traditional and progressive aspects of teaching style is advocated.

2. It is important that curriculum development be seen as part of a dynamic ongoing exercise which will take great care that children have no unbridgeable chasms to cross in their learning. The current South African notion of a core curriculum is criticised for its outdated, subject-bound orientation, and a brief description is given of an Australian core curriculum to give some indication of the nature of change that is possible.

3. There is recent literature in bilingual education which will help us to conceptualise the transition between English as a subject (taught communicatively) and English across the curriculum, and finally English as the medium of instruction. These insights inform both teaching praxis and the form of language and content subject texts.

4. Finally, it is urged that cognisance be taken of sound principles of materials development, making comprehensibility the primary aim. Materials development shall be a multidisciplinary enterprise which will issue in the production of hybrid work-textbooks for use in the primary phase.

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